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ABSTRACT

This bulletin, now in its fifth edition, provides the teacher with specific assistance in evaluating student behavior in two vital areas of social studies education--study skills and critical thinking. The first three chapters provide background discussion on the problems of teaching and testing these skills and offer some general suggestions. A chapter follows giving suggestions on the use of the bulletin. Here, teachers are urged to use the exercises and suggestions as a starting point in directing the learning and development of more efficient study skills rather than as an end point to measure the relative mastery of particular skills or abilities. The exercises are not intended to be used as a final examination, but rather to stimulate pupils to further learning tin the field of endeavor from which the items are drawn. The remainder of the bulletin is devoted to the actual selection of test items. It includes exercises on: acquiring information; reading and interpreting graphs, charts, and tables; identifying the central issues; distinguishing between fact and opinion, between fact and motive, open-mindedness recognizing biased statements; drawing inferences, recognizing statements which support generalizations; and, determining the relative significance of questions.
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FIFTH EDITION

Bulletin No. 15 1971

Selected Items for the Testing of STUDY SKILLS AND CRITICAL THINKING

SS 00 261

HORACE T. MORSE
and
GEORGE H. McCUNE

Revised by
LESTER E. BROWN
and
ELLEN COOK

NATIONAL COUNCIL FOR THE SOCIAL STUDIES

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Selected Items for the Testing of

STUDY SKILLS
AND
CRITICAL THINKING

BY

HORACE T. MORSE and GEORGE H. McCUNE

REVISED BY

LESTER E. BROWN and ELLEN COOK

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Fifth Edition

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Foreword

Several years have passed since the National Council for the Social Studies published the First Edition of this valuable bulletin. The fact that it has gone through five revisions and continues to be requested and used by teachers speaks to the quality and need for this publication.

It is widely recognized that social studies education does, and indeed must, concern itself with a broad range of diverse goals and objectives. These goals and objectives vary from those concerned primarily with content and content-related skills to those that deal with the social development of learners, with values development, with intellectual operations, and others. It is unfortunately true, however, that the conventional instruments used to evaluate social studies learnings have not often reflected this broad spectrum of outcomes. More often than not, evaluative instruments in social studies concern themselves with a somewhat narrow set of outcomes, mainly those relating to the substantive components of the program.

With the growing concern for accountability there is an increased need for a diversity of evaluative devices that are consistent with the broad concerns claimed for social studies education. This Fifth Edition of *Selected Items for the Testing of Study Skills and Critical Thinking* provides the teacher with specific assistance in evaluating student behavior in two vital areas of social studies education. It provides a means of evaluating outcomes related to *processes* of social studies instruction that are generally regarded as important.

One characteristic of sound evaluative procedures is that they encourage good habits of study. As such they help clarify goals for the learner. Through the system of evaluation, the learner sorts out what is perceived to be of value. Acclamations by the teacher concerning the importance of study skills and critical thinking are not likely to be effective in enhancing learner growth unless supported by sound instruction and evaluation. The Council, therefore, is presenting this Fifth Edition with the thought that it will contribute to the improvement of teaching and learning.

The National Council for the Social Studies wishes to acknowledge the contributions of the original authors of this bulletin, George H. McCune and the late Horace T. Morse. The Council also expresses thanks and appreciation to Lester Brown and Ellen Cook for their work in preparing the Fifth Edition.

John Jarolimek, *President*
National Council for the Social Studies

THE AUTHORS OF THIS REVISION

LESTER E. BROWN has held a number of leadership positions as a Junior High School Teacher, District Social Studies Chairman, Audio-Visual Coordinator, Curriculum Consultant, Elementary School Principal, and a member of the graduate faculties of several universities. In 1965 he received the H. V. Wilson Award, a national audio-visual award, and in 1967 he was presented with the Kettering Award for Outstanding Administrator.

ELLEN COOK has been a Junior High School Teacher for almost twenty years and a Social Studies Department Chairman for the last six. Her unusual versatility is reflected in her areas of special competence: social studies, music, language arts, and guidance.

Preface

The authors of this revision of *Selected Items for the Testing of Study Skills and Critical Thinking* feel honored that they were chosen by the Publications Board of the National Council for the Social Studies to update the work that was begun by the original authors, Horace T. Morse and George H. McCune. The fact that thirty-one years and four editions have elapsed since the first publication by the NCSS of their pioneer work is adequate testimony to the wisdom and foresight of these two. But even more significant is the fact that Morse and McCune were addressing themselves to the great existing need of teachers then and one that persists to our present day; i.e., how do we teach the critical thinking and study skills and how do we effectively measure the extent to which students are attaining these important skills?

Many classroom teachers have recognized that while doing an assignment, a child may succeed in memorizing facts and ideas. Further, at test time he may score "high" because he remembers all the "right" answers. However, most classroom teachers have long recognized that this is *not* enough. They realize the importance of helping children to locate and evaluate information. Articles in educational journals and speakers stress the great need in this area, but they seldom offer teachers practical suggestions for meeting this need in the classroom situation. The main focus of this book is an attempt to fill that gap. It attempts to demonstrate how the elements of critical thinking and study skills relate to the immediate classroom situations. Hopefully, this book offers practical suggestions and sample materials which will aid the classroom teacher in translating these goals into actual operation.

Lester E. Brown
Ellen Cook

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The Approach to the Problem of Testing Study Skills and Critical Thinking

Desirability of Developing Study Skills

Competent *teachers* in the field of the social studies have always recognized the desirability of giving adequate emphasis to the development of study skills and critical thinking on the part of their pupils. The effective teacher has realized the necessity of training students in methods of acquiring, evaluating, and using social learning as a corollary to developing their knowledge and understanding of the materials of the social sciences. In one of the early standard textbooks on the teaching of history, Henry Johnson advocated a limited application of historical method even in the upper grades (49, p. 307f.).[1] Kelty many years ago stressed the development of efficient work habits and study skills (53), and indicated that even children in the middle grades are capable of the higher thought processes of reasoning and judgment in simple form (52). This conclusion has been amply confirmed in subsequent years (64), (73). Anderson, Forsythe, and Morse discussed the problem, analyzing the types of understanding and related skills involved (8).

A study by Anderson (5) of the results of administration of the *Iowa Basic Study Skills Test* revealed that there was great variation in mastery of simple skills in the upper grades as a result of the neglect of this aspect of subject matter by the average teacher. The extreme variability within and among schools and grades led him to the conclusion that there is no justification for what appears to be a common assumption, namely, that no special instruction in certain study skills is needed (6). Almost all writers who have given attention to the problem have championed the inclusion of training in study skills and critical thinking as part of the school program, and they have deplored the obvious neglect of the matter on the part of most teachers.

Why should there be such a gap between theory and practice? Why should the desirability of teaching study skills and critical thinking be openly admitted on the one hand and yet be neglected on the other?

[1] Numbers in parentheses are for references listed in the Bibliography, at the end of this Bulletin.

Reasons Why Study Skills Are Neglected

1. Training

A number of reasons might be given for this unsatisfactory state of affairs, but two are probably paramount. The first of these is the limited amount of training which teachers of the social studies receive in the subject matter of the social sciences. In many states it is quite possible for graduates of colleges and normal schools to be certified as teachers of the social studies in the secondary schools with the merest smattering of subject-matter content. As a result, a student may enter upon a career as a teacher of history without having had actual practice in adequate research or without knowing what is meant by historical criticism. Prospective teachers who major in some other field but complete a so-called minor in the social studies are naturally even less adequately trained. The raising of professional standards will ameliorate this situation in time, but the situation still exists. Thus many teachers of the social studies neglect the teaching of study skills and methods of inquiry because they are not themselves familiar with the necessary skills. The more competent teachers who may have triumphed over lack of adequate preparation have improved their effectiveness by intelligent reading and inquiry in the field of their major interest and by further training.

2. Appraisal of Progress

The second reason for the unsatisfactory teaching of study skills is that there has not been generally available to the average classroom teacher any method of appraisal of the progress of pupils in learning the desired skills. The widespread interest in evaluation which has marked the last few decades resulted in the production of a large number of subject-matter tests. Outcomes of instruction other than factual information were given attention in many published tests, but study skills and critical thinking received relatively little consideration until very recently. As a result, the teacher emphasized informational outcomes for the most part, both in teaching and testing, and naturally tended to disregard the outcomes which had received less emphasis by leaders in the field. About the only ways a teacher could judge the degree to which pupils were mastering study skills were by the individual discussion during the recitation or supervised-study period, or by examining the results of the practice of the necessary skills in a theme or written report which the student might submit. Both of these methods of appraisal are excellent, and should remain a part of every social-studies program, but they may well be supplemented with exercises of a more objective type.

Early Methods of Appraising Skills

There is a good explanation for the fact that the development of testing of study skills and critical thinking has been slow. Any comprehensive test of skills must test a process which is in actual operation as well as the results of that process. There are two ways in which a paper-and-pencil test may be said to test study skills. One is to test the results of past practice in the use of the relevant skills. The memorized material retained as a result of such actual practice is to some degree an indication that the process has been employed by the pupil, and therefore that he has developed the required skill. This was one line of approach followed in 1934 by the American Historical Association Commission report on tests (51). Types of items which test, in this indirect manner, for the possession of study skills are those, for instance, which require a knowledge of proper reference materials and understanding of tabular data.

A second approach to testing skills is to present items which require the actual practice of a skill. Such skills range from reading of simple graphs to the exercise of critical faculties in the interpretation of data. The majority of the items included in this Bulletin are of the latter type. Except for the simpler items based on graph-reading, these are the most difficult types to construct, since they aim to indicate the degree of proficiency of a process in operation. The objective test form does not lend itself easily to the construction of items of this nature, and according to Kelley and Krey (51), probably can never entirely replace more subjective methods of getting a cross section of a thinking process. Therefore it is hoped that this Bulletin may prove of greatest value in a diagnostic capacity and in directing the attention of teachers to the importance of giving adequate consideration to the development of skills.

The importance of the development of the skill of thinking clearly and critically in the field of the social sciences can hardly be overestimated. But in mastering such a skill the learner in the field of mental abilities is in a situation parallel to that of the learner of muscular or manipulative activities. While he is learning, not the end product of his efforts but rather the process he follows is immediately significant. Proficiency will come in time *if the process is correctly mastered.* In learning to swim, for example, the speed which one may exhibit at first is less important than the efficient coordination of the parts of the body in the swimming process. A competent teacher of art also places much less weight on the first creations of his students than on the process by which they are attaining their results.

Study skills and critical thinking skills may be learned most effectively

as they are to be used rather than through isolated situations. However, the realities of the classroom situation mitigate the mass teaching of these skills at any one grade level and call for a sequential development throughout the child's classroom experience. For example, the skill of distinguishing between fact and opinion could be readily mastered by even third-grade youngsters but learning this skill in isolation without direct application to academic or social problems is actually an exercise in futility. A preferable program would be the teaching of the skill followed by exercises designed to develop the skills of discerning the difficulty of proof, distinguishing between biased and nonbiased sources and leading to a rather sophisticated examination of the validity of selected sources. A suggested sequence to be used in the transmission of these skills at various grade levels was developed by Brown and Cook and is included in Appendix A of this booklet. Their sequence was based not only on the perceived difficulty of the skills but further on the seeming opportunities to apply them at various grade levels. Adequately mastered, these skills will be of invaluable service to the maturing pupil as he continues to learn more about social relationships through his adult years.

Pioneer Research on Study Skills

The authors of this Bulletin have drawn freely upon the contributions of workers who have pioneered in the development of tests of social-studies skills. During the last few decades many significant experiments and studies have been completed which have little by little pushed forward the frontiers of our knowledge in this field. Any discussion of testing study skills and critical thinking would hardly be complete without a brief résumé of the steps which have been made by educators who have brought us to our present stage of development and pointed the direction for future inquiry.

The *Van Wagenen Reading Scales in History* was one of the earliest contributions to the objective testing of study skills. Although called a reading scale, it was also a test of the ability of pupils to draw correct inferences from a paragraph of descriptive history. It contained the necessary prerequisite of a skills test in that all the data necessary to the successful completion of each exercise were furnished in the section so that no outside knowledge would contribute to successful performance. Each form of the test contained fifteen paragraphs followed by five statements. The task of the pupil was to check only those statements which contained "an idea that is in the paragraph or that can be derived from it." These tests were constructed, statistically scaled, and validated with the utmost care on the basis of wide experimental admin-

istration. It is unfortunate that the direction pointed out so early by Van Wagenen was not pursued more rapidly.

Another early somewhat objective test of study skills brought to notice by a published description was that developed by Marion G. Clark (26), who was later to work out the tests of skill in evaluation of historical evidence under the sponsorship of the American Historical Association Commission. In the early test, the results of which she reported in 1923, Clark tested the historical sense of fourth- and fifth-grade pupils by showing a series of pictures which had some definite clue as to the relative period which they depicted. One of the series of five pictures showed varying modes of travel, such as stagecoach, early railroad train, and gasoline motor. These were presented in mixed order and the pupils were to number them in the order of their chronological development. One ingenious exercise was to show the children a picture illustrating the first Thanksgiving, or another depicting a great modern shipyard, and ask the child to name any person who would have been living at the time which the picture indicated.

From her experience with these exercises, Clark concluded that even fourth-grade children have "some sense of a developing world," and that fifth graders show an historical sense somewhat in advance of that shown by fourth graders.

A more objective work skills test, much broader in scope, was reported by Alice N. Gibbons in Bulletin No. 3 of the National Council for the Social Studies, published in 1929 (37). This test was originally drawn up during the summer of 1926 by social-studies teachers in the schools of Rochester, New York. It contained exercises in learning about a new book; use of general references; newspaper-reading; interpreting a chart, picture graph, and table of statistics; summarizing; and outlining. Among other social-studies subject-matter tests reported were sections on reading comprehension, ability to make generalizations, and the ability to analyze the significance of given political cartoons.

After two years of revision and experimentation, the teachers who had developed the study skills test concluded that the major worth of such exercises was their diagnostic value for pupils and teachers alike, and that there was room for much additional experimentation and progress in the direction of developing exercises and test items of study skills and critical thinking.

In 1930 Ralph W. Tyler reported a series of exercises constructed to measure the ability to infer (83). A significant conclusion from this study indicated that the ability to select the most reasonable of given inferences was not the same as the ability to propose an original

inference. It was found possible, however, to construct entirely objective exercises which tested the ability to infer (83, 96). Tyler presented an illustrative selection based on social-studies materials a few years later in his chapter in the Fourteenth Yearbook of the Department of Superintendence (82). In his list of objectives for the social studies as part of this same chapter he included a relatively large number of study skills.

Gladys Boyington described a number of objective exercises for testing study skills in the Second Yearbook of the National Council for the Social Studies, which was published in 1932 (17). These items, many of which were ingeniously constructed, were presented in multiple-choice form. She divided the skills which were to be tested into two general categories, namely, study tools and study techniques. Under the second division were a number of items involving correct response to such often used terms as *characterize, classify, compare, contrast, define, discuss,* and *illustrate.* This section of the test was one which yielded a great variety of response on the part of high-school and college pupils. Boyington concluded that not only pupils but also many teachers and prospective teachers do not have adequate concepts for the words listed.

The authors of this Bulletin experimented to some degree with items involving the proper understanding of such terms as Boyington lists. The amount of their success was limited, however, because the flexibility of these terms in popular usage and even in dictionary definition made it difficult to construct exercises in which one response could be considered as definitely correct while closely related options could be called unqualifiedly wrong. This same problem underlies all paper-and-pencil tests of study skills and critical thinking. The authors feel, however, that there is much room for additional investigation in the direction pointed out by Boyington, and will await any further developments with interest.

The results of a long and detailed investigation of the use of objective test forms for measuring outcomes of instruction including study and critical skills were published under the auspices of the American Historical Association Commission in 1934 (51). This volume, by Truman Lee Kelley and A. C. Krey, presented the tests which were finally developed in this area under the auspices and guidance of the Commission, along with a penetrating analysis of the problem of the objective testing of social-studies skills. In discussing the findings of the investigators, Krey classified skills in three significant divisions: "(a) those concerned with the *acquisition* of information; (b) those concerned with the *evaluation* of information; and (c) those concerned with the *expression*

of social learning" (51, p. 58). Two of the tests sponsored by the Commission dealt with social-studies skills.[2]

The development of the *Iowa Every-Pupil Test of Basic Skills,* the first battery of which appeared in 1935, permitted a widely and uniformly administered testing of basic skills so that general comparisons and trends could be noted. In addition to the sections on general vocabulary and use of the dictionary, the test contained four sections devoted to testing skills which are of particular importance in the social studies. These were: comprehension of maps; reading graphs and charts; use of basic references; and use of indexes. A primary value stated for this type of test was its use for diagnostic and guidance purposes. Detailed studies of the results of administering the Iowa basic-skills test were made by Anderson (4, 5), Wrightstone (95), and Wilson (91). Great variability was found among different groups in their abilities as measured by the test. The skills tested showed a steep acceleration in growth up to the mental age of fourteen years, with a more gradual acceleration after that point.

Wrightstone has published social-studies skills tests for both the elementary and secondary levels (93, 95, 96). The elementary-school series, in two forms, was called *Test of Critical Thinking in the Social Studies,* and contained three general divisions: obtaining facts; drawing conclusions; and applying general facts. The test for the secondary level, the *Cooperative Test of Social Studies Abilities,* which first appeared in experimental form in 1936, contained four parts of relatively more complicated exercises. These sections were headed: obtaining facts; organizing facts; interpreting facts; and applying generalizations. In both of these batteries attention was directed to the testing of skills which were an essential part of instruction in the social studies but which had previously received relatively little notice in standardized tests. There was a greater variety of forms and a broader interpretation of the term "skills," in that items were included which required exercise of the critical faculties as well as the more mechanical abilities such as graph-reading.

Tests which emphasize skills and other frequently neglected outcomes of instruction in the social studies were produced under the auspices of the Evaluation Staff of the Eight-Year Study conducted by the Progressive Education Association (71, 72, 77). In these tests new forms were presented and more emphasis was placed upon interpretive and critical skills than upon less highly organized and complex abilities. Wright-

[2] Marion G. Clark, *Exercises in the Use of Historical Evidence.* New York: Scribner's, 1934. Edith Parker and R. D. Calkins, *Geography Tests.* Not published; for description see Kelley and Krey (51, p. 235-301).

stone (94) reports that the current definition of achievement has been expanded to include such objectives as work, study skills, and critical thinking.

Various Viewpoints Regarding the Teaching of Study Skills

Since teachers in nearly every field maintain that one of their major purposes in instruction is to develop the ability on the part of their students to think reflectively, one may well ask the question, "Why do we not teach critical and reflective thinking apart from any particular body of subject matter?" The answer to that inquiry raises an interesting problem.

Such evidence as we have seems to point to the conclusion that critical ability and reflective thinking tend to develop along with knowledge and understanding in separate fields rather than as universal or generally transferable values. The meticulous research scholar in the physical sciences, who would be scornful of the prospect of drawing conclusions based upon uncontrolled and unverified experiments, may upon occasion make entirely unwarranted generalizations in regard to social relationships, generalizations based upon a limited number of experiences or observations. Doctors and professors, who are supposed to have developed critical acumen to an unusual degree, comprise a surprisingly large percent of the names on the "sucker lists" of promoters of get-rich-quick schemes. As profound a thinker as John Stuart Mill is supposed by popular account to have cut holes in his screen door so that his cat and her kittens could have easy entrance—a large hole for the cat and a small one for the kittens.

Some light on this problem has been shed by a study sponsored by the Committee on Educational Research of the University of Minnesota of an examination in critical thinking administered in the General College of the University (27). The examination consisted of items drawn from three fields: situations in general science, situations in social science, and situations in logic. One of the specific purposes of the test was to determine the relationships between the students' responses in the three fields. The low correlations obtained suggested that the ability to "think clearly" in one field was not necessarily accompanied by an ability to think clearly in other fields.

A different point of view, that critical ability may be developed separately from any specific subject-matter field, was apparently taken by such groups in the 1930's as the Institute for Propaganda Analysis. Their method of approach for the most part was that of identifying the usual techniques or devices by which the propagandist tries to influence his reader. Many of these devices are known to social-studies teachers

by the terms by which the Institute classified them, such as "name-calling," "card-stacking," and "glittering generalities." The Institute has published a number of interesting tests of the ability to detect propaganda of this type.

Some persons who have heard about concepts and procedures used for the testing of study skills and critical thinking have suggested that these are merely another form of testing general intelligence. The authors have conducted some studies since the first edition of this Bulletin appeared and are firmly convinced that this point of view is in error, in spite of the naturally positive correlation of scores on intelligence tests with those on study skills tests. The correlations, while fairly high, are not high enough to support the assumption that these tests are measuring the same mental qualities (68). Other studies have also concluded that, as Furst says, "Critical thinking thus appears to be somewhat independent of what is commonly measured as 'general intelligence' " (36, 74).

The authors of this Bulletin are committed to the point of view that the most effective way to develop social-studies skills, particularly those which involve critical and reflective thinking, is through the medium of the subject matter where these abilities are to be applied. Although it cannot be denied that there may be some transfer from one field to another, the amount of such effective carry-over is undoubtedly overestimated by the more enthusiastic proponents of the transfer theory. For this reason this Bulletin has limited the field from which the exercises are drawn to that generally embraced by the social-studies curriculum of the secondary school.

The Teaching of Study Skills and Critical Thinking

Basic Considerations in Developing a Program

A practical program for teaching techniques of critical thinking cannot be drawn with mathematical precision. Many variables are involved, such as the teacher, the pupil, and the material equipment. The teacher cannot teach skills if he has not become cognizant of, and proficient in, the techniques which he desires a class to learn. Within every class there are wide variations of aptitudes, abilities, and degrees of maturation. And finally, the teacher is always faced with the problem of providing materials in which the slow learner may achieve success and which at the same time constitute a challenge to the brilliant student.

Before any teacher can answer the question "How is the pupil to be taught?" the teacher must have clearly in mind the various skills appropriate for the child's specific stage of academic development. An acute consciousness should be manifested of how the development of a particular skill fits into the sequential development of the skill at increasing levels of complexity. Then the teacher must make an effort to ascertain the youngster's present level of mastery of the skill involved. This of course implies pre-testing, a fundamental tool in individualizing instruction in any school. However, the procedure of pre-testing is predicated on knowing exactly what behavior the child is to manifest when engaging in critical thinking. Brown (19:p.5f.) attempted to delineate these skills as follows:

1. The student will demonstrate his ability to locate the central idea by selecting it after reading or listening to a given selection.
2. The student will exhibit his ability to recognize emotional words by correctly identifying them in given selections.
3. The student will demonstrate his ability to distinguish between fact and opinion statements by correctly categorizing a given set of statements.
4. The student will demonstrate his understanding of the importance of facts and opinions by selecting statements that are most difficult to prove.
5. The student will be able to identify and distinguish between a biased and unbiased source of information by identifying several examples of each.

6. The student will demonstrate his ability to evaluate the most valid source of information by selecting the best source for a given situation from a list of alternatives.
7. The student will demonstrate his ability to evaluate the potential validity of sources by selecting the best source, the second best source, and the third best source for a given situation.
8. The student will evidence his ability to detect bias by identifying the most likely viewpoints of given persons towards a given situation experienced in an article or a speech.
9. The student will display his ability to distinguish between facts that are relevant and facts that are not relevant to a situation or problem by correctly identifying the relevant and nonrelevant phrases.
10. The student will demonstrate his ability to draw inferences by selecting the most logical conclusions based on evidence in a given selection.
11. The student will demonstrate his ability to evaluate the degree of certainty of inferences by correctly classifying given statements after reading or listening to a selection.
12. The student will demonstrate his ability to recognize stated and unstated assumptions by (listing or selecting) them after reading or listening to a given selection.

The possession of a skill by a pupil is no indication that he is in the *habit* of using it. The final test of a pupil's command of a skill is his actual performance in situations requiring the use of the necessary abilities. This may be indicated more adequately by the judgment of a competent teacher than by a score on an objective test. The child's habit of using skills comes through the use of materials that are related to his experience. If, as Henry Johnson once pointed out, the child does not possess the essential experience, then it is the teacher's task to provide him with such experience either directly or vicariously.

The questions "How is this to be done?" and "What methods are to be used?" are important, but not more important than the question "How is the pupil progressing?" The answer to this inquiry is more desirable than undue emphasis on any exact method of progress. There is no uniformity of devices and techniques used by master teachers for transmitting a knowledge of, or practice in, the study skills. One thing, however, is common to all expert teachers concerned with the teaching of skills. That is that the acquaintance with, and practice of, study skills is accompanied by the use of *meaningful* materials which are within the range of the experience of the pupil.

Teaching critical thinking skills is essentially a two-stage process. The first stage is largely teacher-dominated, the second is more learner-oriented. Many teachers err in believing that skills will be acquired automatically. Research, as well as classroom experience, indicates that this is just *not* true.

The first stage in teaching critical thinking consists of the following six-step process:

1. *Isolating and carefully defining a specific critical thinking skill.* Students need to know exactly what they are expected to master.
2. *Providing opportunities for students to practice this skill.* Practice is guided, with special materials provided and work "corrected." This is the mastery stage, where much remediation and explanation is needed. It is comparable to the primary level teacher providing experiences for children to learn selected initial consonants and vowels before trying to form them into words. No competent reading teacher would expect a child to gain reading skills automatically. He sharply articulates them in isolation before combining them. This method is also essential in developing critical thinking skills.
3. *After the skill has been mastered in isolated exercises, emphasizing its application to topics being studied and to the students' daily life.* This application was probably mentioned in earlier teaching, but at this point it is strongly emphasized.
4. *Designing materials which integrate the newly learned skill into topics currently being studied in class.* This is an important step as it allows for reinforcement of the skill and also further demonstrates its applicability.
5. *Administering a test to determine student mastery of the specific skill.* This test will indicate any need for additional practice.
6. *Reviewing the skill in later assignments and class discussions.* This step is often overlooked in programs of skill development, but it is vitally important. If a skill is to be mastered, it must be practiced at later intervals.

The second stage in developing critical thinking is primarily accomplished by providing a favorable classroom atmosphere. The key to obtaining a "climate" conducive to the promotion and development of effective thought is allowing students sufficient freedom and security to use their newly gained skills.

One other point is important in considering the development of a program for the teaching and learning of skills—the factor of material equipment. The lack of material equipment should not be used as an excuse for the failure to emphasize such skills as critical thinking, evaluation, drawing inferences, or reading charts and graphs. It is

pointed out in the Fourteenth Yearbook of the Department of Superindependence (69, p. 287) that "meagerness of equipment should not justify a teacher's surrender to conditions" and that even a few postage stamps can be used successfully as material equipment to place social learning on a level far above question-and-answer recitations.

Readers of this Bulletin who are familiar with the Ninth Yearbook of the National Council for the Social Studies (89), Chapter XIV of the Thirty-First Yearbook (25), Bulletin No. 21 of the National Council, *Community Planning in a Democracy* (14), or Fay Rogers' account of the "Social Life of the Tuttle School District" as reported in Krey's *Regional Program* (55) are aware of the wealth of material that is available in the community which may be used as material equipment for teaching social-studies skills. For example, financial statements of various community organizations including local government units are often available. These provide excellent material for the construction of charts and graphs. The editorial pages of local newspapers often contain general statements unsupported by fact; radio and TV commentators often quote figures which are largely meaningless unless qualified; and "letters to the editor" in the daily newspapers are a common source of misstatements and misapprehensions. As Walter Lippmann has cogently pointed out in his book, *Public Opinion,* the study of errors "serves as a stimulating introduction to the study of truth." The teacher who does not have at hand a wealth of material equipment need not yearn unduly for the "pot of gold far away when acres of diamonds are close by." The teachers who already possess in their schools a wealth of material equipment know that it cannot take the place of scholarly competence on their part or active response and participation by the pupil.

A publication which should prove especially helpful to teachers interested in teaching study skills and critical thinking is the Thirty-Third Yearbook of the National Council for the Social Studies, edited by Helen McCracken Carpenter, and titled *Skill Development in Social Studies* (22). Several chapters cover the same topics as those Sections listed in the Table of Contents of this Bulletin, so that the two publications may be used together with considerable profit.

The Skill of Acquiring Information

Elsewhere in this Bulletin skills have been defined and their scope indicated. The skills with which teachers are often concerned are the techniques of obtaining information. The first use of these skills should commence when the class convenes at the start of a new school year. Even when one textbook is used by all the members of the class it

still may be utilized as a convenient starting point both for enabling the teacher to find out what techniques the members of the class possess for obtaining information, and for giving an opportunity for teaching the skill. Often, even in senior-high school classes, there are some pupils who have not mastered the techniques of using the index or table of contents. A few extemporaneous questions, or better still a prepared set of questions, will soon indicate those pupils who know how to use the textbook profitably. Assuming that the class is using an American history textbook, the teacher could ask such questions as the following: If you wanted to locate what your book says about the Monroe Doctrine, what part of the book would you consult? Where would you look to find the exact title of Chapter 12? On what page is material about Abraham Lincoln found? Where would you look to locate a map showing the Northwest Territory? Who are the authors of your text? Where have they stated the purpose of the book? Where is the copyright date to be found?

The skills of using card catalogues and reference works are techniques useful in obtaining information. Social-studies teachers should not take for granted that their pupils know how to use these materials. Pupils need practice in building up the *habit* of using the card catalogue, the encyclopedias, *Dictionary of American Biography, Dictionary of American History, A Guide to the Study of the United States of America, Encyclopedia of the Social Sciences, World Almanac,* and *Readers' Guide to Periodical Literature,* as well as other common reference works.

Basic to many operations in obtaining information is the fundamental skill of alphabetizing. The discovery of pupils' deficiencies in this elementary skill is a constant surprise to most teachers, and yet such deficiencies are extremely common. They can, and should, be overcome by direct instruction.

There are a number of helpful devices for teaching pupils how to use alphabetical lists such as card catalogues, indexes, and the topical arrangement found in encyclopedias. For example, the teacher could have the pupils write down a list of words such as "ostracize, expect, principal, mercantilism, zone, fragile, whistle, star, kangaroo," and mark these with numbers to show the correct alphabetical orders. This simple device will indicate whether further practice is necessary. More difficult exercises would be to have the pupils alphabetize such a list of words as "marine, mimeograph, myrrh, merchant, misrepresentation, modify, mundane, mimic, and misery" or such a list of names as "McKinley, Magellan, Macaulay, von Moltke, de Montfort, Mabie, Monroe, and MacMahon." A practical exercise at the beginning of the

school year would be for the class to arrange the names of the pupils in alphabetical order.

Another useful device for teaching alphabetizing is a matching exercise involving the guide words taken from the top of a page of a standard dictionary. A group of guide words picked at random might be "inadvisable-incapable, Austria-autopsy, budge-built, aught-Australian, once-onwards, olive-on." A list of words to be placed between the guide words would include "onion, inborn, aunt, omelet, automobile, and Ontario." Such an exercise can be supplemented by practice in finding words in other alphabetized lists easily available such as telephone directories, catalogues, or book indexes.

School libraries are often evaluated on the number of available volumes. However, a more valid index may be the level of each student's ability to utilize it to effectively obtain desired data. This thesis predicates that special attention should be given to teaching the use of the card catalogue, *Readers' Guide to Periodical Literature,* and standard reference works. In teaching students how to use the card catalogue effectively the rule is to explain and illustrate and then to assign exercises that will give the students practice. This procedure should be repeated until the skill is mastered. Attempts to provide instruction in the use of the card catalogue to the entire class simultaneously through the medium of the standard card catalogue in the library are usually quite *unsuccessful.* A more effective technique involves the utilization of media such as filmstrips and/or overhead transparencies to provide initial instruction for the requisite skills. The technique of utilizing overhead transparencies lends itself well to pointing out and explaining the meaning of call numbers, analytic notations, and other data. This exercise could probably be followed by a tour through the library noting the placement of standard reference works and the numbering system. A follow-up exercise might be to have the youngsters locate the call numbers of selected books. Obviously, each youngster should not be given the same list and seemingly in the introductory stages a list of four or five works would be sufficient. The refining of this skill by requiring the student to locate references in specifically assigned topics is also beneficial.

Special emphasis on the teaching of the library skills is exceedingly vital in the modern secondary school that is built around the concept of the learning center. The following question seems legitimate: "Of what value is even the most modern and best equipped learning center, if the individual student is unable to independently locate information he desires?" Obviously, the learning center specialist can be of some assistance in this area, but quite clearly he does *not* have the major

responsibility for this task. Our neglect of this responsibility has greater significance than just the improper utilization of a learning center. By teaching the youngster adequate research skills we provide him with skills to pursue a lifelong search for information regardless of his future station or position in life.

An effective strategy for teaching the use of reference books is for the teacher to bring a book to class, point out some of its features, and perhaps read a paragraph or two. This should be followed by the practice of allowing the class to handle the book in turn. This procedure should be followed by assignments to the books that have been mentioned by the teacher and handled by the pupils. The opportune time to teach the use of reference books is when the occasion calls for a reference book. Pupils will learn a skill more quickly if there is a felt difficulty to be overcome by the acquisition of a skill.

The ability to read well is one of the fundamental skills for the acquisition of information from printed materials. According to Kelty, the "problem of technique on which teachers seem to need most help is the management of social-studies reading materials." For the development of skills in administering the reading program by the teacher and skills for reporting on reading materials by the pupils, a pioneer work is Bulletin No. 4 of the National Council for the Social Studies (54). This helpful booklet, prepared by W. G. Kimmel, surveys the status of the reading program in senior high schools up to 1929, points out dangers in mechanical systems, and makes useful suggestions for improving any program which the classroom teacher might be using. Pertinent analysis and summaries of current practices in the management of the reading program are to be found in numerous books and articles concerned with teaching the social studies. Regardless of the type of reading program in vogue in any particular school, the teacher should keep in mind that a reading program should embrace only meaningful materials within the range of experience of the pupil. Finally, the reading program should be the starting point for the development of such skills as note-taking, making outlines, comparing authors, summarizing, making précis, making generalizations, determining central issues, recognizing underlying assumptions, evaluating evidence, drawing warranted conclusions, and criticizing content. These skills should be practiced and taught when the pupil needs the skill.

In the suggestions thus far discussed, the student uses inert materials such as a map, picture, textbooks, or statistical data to develop his skills. These can be handled by the pupil at his own speed; they can be started or stopped at will while teacher and pupil analyze methods and point out weaknesses, but regardless of careful planning

with meaningful materials some artificiality will remain. The situation is still an academic one. In order to bridge the gap to real life situations, there are a number of other experiences that may be considered in which the pupil uses a combination of skills to acquire and evaluate information. These experiences involve relations with people as well as inert materials and require in addition another kind of skill. This skill depends in part upon a combination of the skills discussed and illustrated elsewhere in this Bulletin together with the social skill of dealing with people. The pupil will use inert material but in order to get it he must win the cooperation of people who are not connected in any way with classroom situations. The new skills are developed in situations where the pupil takes advantage of the exigencies of the moment to change tactics and call into play the skills that he has learned through classroom situations. An example will clarify what is meant and point the way to other possibilities.

A pupil wishes to investigate the origin and development of a neighborhood welfare house. Like similar projects, the welfare house was once an idea held by one, two, or more people. How was the idea transmitted into stone and concrete, into a program involving a neighborhood? How was the land acquired? How did the program develop? Does the house receive city support? How and in what ways does the institution serve the community? Answers to these questions are known by people not always acquainted with the pupil. The pupil gets the answers by interviewing people, by checking their statements with documentary evidence, and by careful observation.

The search for documents might lead to the courthouse, to the records of land deeds, wills, and court actions, to minutes of governing bodies such as those of churches, town councils, or fraternal organizations, to printed material of public and private agencies. The ownership of these documents is in some instances public and in others private. Access by the pupils to records involves relations with many people. The enthusiasm, earnestness, and sincerity of the pupil plus his ability to enlist the aid of busy people calls for careful planning. In each situation with a public or private official, questions must be phrased to elicit a maximum of information and cooperation. The time spent by officials varies with the keenness of the questions asked by the pupil. Clerks in charge of public records are helpful to the extent that the pupil can give them definite clues which will enable the clerk to locate those records which will be most profitable for the project. Moreover, the pupil must be able to recognize what he wants when it is brought to him, or to discard it diplomatically without injuring his public relations with the person who brought the materials to him.

The teacher plays an important part in the whole project. The teacher assists by wise direction in planning the interview, in developing techniques for approaching people on the merits of the project, in building up a background of general information about the project from commonly available sources, and in providing opportunity for the pupil to practice the necessary complementary skills discussed and illustrated elsewhere in this Bulletin. Thereafter the pupil is on his own. Periodically, however, the pupil should report briefly to the class or teacher about his problems and progress.

Besides formal projects there are many informal activities that are profitable for teaching and learning. The informal project provides an opportunity for pupils to express ideas with words that they could not express graphically by paper and pencil. One of these projects could center around definitions and concepts. One pupil could act as secretary and write on the blackboard the contributions of classmates. For example, the class could be asked to differentiate between the following pairs of terms, explaining the meaning of each, first separately, and secondly in its relationship with the other term.

partnership	corporation
shares	bonds
money	specie
spinning jenny	spinning mule
bank	trust
laissez-faire	collectivism
competition	monopoly
check	bill of exchange
ad valorem	specific duties
protective tariff	tariff for revenue

Another worthwhile classroom activity is a result of the teacher taking notes in his own reading of statements which conclude, sum up, or assess periods and movements in history.

The following exercise may be used when the teacher and class conclude a study of the Civil War.

> Why did the Confederacy fail? By all the rules of history it should have been successful. Charles Francis Adams made it a part of the business of his active literary career to prove that the "Confederacy was strangled by the blockade and the failure of Europe to intervene." Many Southerners contended that the Confederacy was lost before it was born; that the great leaders knew it must fail when they organized it. Mr. Rhodes simply states that the "superior numbers and larger resources of the North were the determining factors. Machines won the great conflict."

> . . . This correspondence goes far to show that the Confederacy lost by the errors and mistakes of its great leaders.[1]

After a secretary is appointed and space on the blackboard is blocked out and labelled according to the reasons given in the quotation, the class uses what texts and source material are available to find evidence proving or disproving the reasons given in the quotation. Social-studies teachers often fail to conclude a topic or unit. It is too easy to drop a topic or unit such as the Civil War after completing the text and classwork on it. Pupils should develop the skills of evaluating evidence and drawing warranted conclusions. Likewise teachers should provide opportunity for pupils to learn these skills.

Many texts in history are careless in stating dates and places when and where events happened. Pupils studying history should learn very early in their schooling that events have little meaning unless they are dated and located. History continually deals with time and space concepts. Many informal classroom exercises can be devised with the goal of helping pupils understand these concepts. When historical events are not dated in a text this problem is usually solved by studying the text in order to fix two *termini* of the event: the date *after* which and the date *before* which the account was written. The following exercises are not too difficult and pupils will have much fun in seeking dates before which and after which the quotations were made. The resourceful teacher will find others.

> "I pray God to give us better hearts," Lt. Commander Thomas Hutchison exclaimed, when a mob of "Sons of Liberty" sacked his mansion as a protest against the Grenville Acts.

When were the Sons of Liberty organized? When were the Grenville Acts passed? Who was Hutchison? What position did he hold? When was his mansion sacked?

> "I know the mode by which a revenue may be drawn from America without offense," Charles Townshend, acting for the King, remarked in proposing a new kind of tax to be levied.

Who was Charles Townshend? What responsible position did he hold in the British government? Who proposes revenue bills in the British Parliament? When were his proposals passed by Parliament?

> Edmund Burke: "Force may subdue for a moment, but it does not remove the necessity of subduing again. . . . let me add that I do not

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[1] W. E. Dodd, "Review of *Jefferson Davis, Constitutionalist,*" in *The American Historical Review,* January 1924, p. 355f.

choose wholly to break the American spirit that has made the country," as he offered his doctrine of Conciliation to George III when the Intolerable Acts failed to cure American unrest.

Who was Edmund Burke? When did he live? Where did he make his speech? When were the Intolerable Acts passed? When was it obvious that they had failed to accomplish their purpose?

Another type of informal classroom activity is one in which pupils have an opportunity to arrange textual statements and facts in juxtaposition by cooperative effort in order to determine common principles and generalizations or to show the process of development. In this exercise a chart is drawn on the blackboard by a pupil and the class with the use of their text and other materials furnishes the necessary informational data.

Construct a chart or table showing the principles laid down by the Resolves of the First Continental Congress; the Declaration of the Causes and the Necessity of Taking Up Arms; and the Declaration of Independence. What similarities are present? What can be said for the attitude of the colonists toward England as shown by these documents? What specific acts of the British Government support the generalizations made in these documents? What general statements can the pupils make as a summary of colonial claims?

In formulating informal projects the teacher should reject those that do not contribute to understanding, the interpretation of reality, the development of historical processes, or critical thinking.

The question may well be asked how such projects with so many intangible outcomes may be evaluated or whether the projects are worth the time spent in developing them and guiding the student. If the pupils are successful or partially so, the teacher will soon know it by their attitude and behavior. The individual pupil may know the answers to the skills tests in the classroom and yet be an unskilled person in real-life situations, in using information and study skills he has acquired. The real measure of interests, appreciations, work habits, and study skills is the attitude and behavior of the pupil.

Many educators have pointed out that the classroom teacher needs materials for the development of study skills and critical thinking. This Bulletin is in part an answer to that need. Its usefulness depends on the extent to which the classroom teachers are able to supplement the exercises in the following pages by their own ingenuity and resourcefulness.

Suggestions for Constructing Tests of Study Skills and Critical Thinking

Underlying Considerations

Certain precautions must be followed in making and using study skills test items beyond those ordinarily followed with objective-type achievement test items. It may be helpful to pass along a few suggestions to teachers who wish to construct items of their own for classroom use. These precautions are therefore indicated below in abbreviated form from a more expanded statement which the authors have published (67).

(1) Directions should be particularly clear and explicit. The form of the exercises may be new to the pupils, or familiar forms may require a somewhat different type of response. It is probably desirable to discuss with a class the necessity for a clear understanding and following of directions before papers containing the test items are distributed.

(2) Sufficient time should be allowed pupils to enable them to complete the exercises. Since these involve thought process, responses cannot be reduced to the automatic level of memorized factual information. A study skill test should not be a time test.

(3) The teacher constructing tests of study skills or critical thinking skills should limit the information required to that which was previously covered in class. A common error is the inadequate distinction between the skill to be measured and the required factual material to perform the skill. Although it is true that the possession of some factual information may be assumed, great caution must be exercised to avoid concluding that the youngster is unable to perform a specific skill when actually he may be unable to respond correctly because he lacks familiarity with the factual information which is being used to evaluate his skill. Examples of information which may be assumed as commonly possessed by students at the secondary level are that America was settled by colonists from Western Europe, that the Catholic church is the oldest organized Christian church, and that during the last hundred years or so there have been two major political parties in the United States.

(4) Items should be phrased so that they are readily understood, and are clear as to what type of response is required. Some check on word frequency by reference to lists of such frequencies would be desirable to be sure that a pupil's possible lack of understanding of a technical or unusual word does not invalidate the item for him.

(5) Study skills exercises are probably best if confined to a general area, such as social studies or natural sciences. Some tests are available which are designed to test critical thinking as a general ability, but experimental evidence would seem to indicate that there is not a high correlation between critical thinking in different areas (27, p. 24f.).

(6) On the other hand, critical thinking is a complicated process. Bloom (16) has classified the commonly accepted critical thinking skills as follows:

2:00 Comprehension:
- 2:20 Interpretation
  - Identifying the central issue. p. 94
  - Distinguishing between warranted and unwarranted conclusions. p. 94
- 2:30 Extrapolation: Drawing warranted conclusions. p. 96

3:00 Application:
- Drawing inferences and comparing them with previous inferences. p. 205
- Comparing and contrasting points of view, theories, generalizations, and facts. p. 124

4:00 Analysis:
- 4:10 Analysis of Elements
  - Distinguishing between fact and opinion statements. p. 146
  - Identifying stated and unstated assumptions. p. 146
- 4:20 Analysis of Relationships
  - Recognizing bias or emotional factors in a presentation. p. 147
  - Distinguishing between essential and incidental information. p. 147
  - Checking the consistency of an argument. p. 147
  - Distinguishing relevant from non-relevant data. p. 147

5:20 Synthesis: Formulating hypotheses and generalizations—based upon an analysis of the factors involved. pp. 170-71

6:00 Evaluation: Assessing the adequacy of the data used to support a given conclusion or generalization. pp. 185-87

The varying complexity of the skills suggests that a variety of approaches must be utilized to measure the various skills. Consequently,

no single type of item can be said to be sufficient for testing critical skills, and probably they are best determined by subjective as well as objective means. A paper-and-pencil test measures performance on the test only, and successful test performance would not necessarily mean that the pupil was accustomed to *use* critical skills in a real-life situation.

(7) As pointed out in an earlier section of this Bulletin, the best educational use of items devised to test study skills is for diagnostic purposes. Their administration should be merely a prelude to classroom discussion which would provide opportunities for pupils to learn more about critical thinking by discussing with each other and the teacher the reasons for making responses as they did. Such tests should never be given as a "final examination," unless the skills have actually been taught in class. The main purpose of the sample exercises in this booklet is to provide models for possible application to individual classroom situations.

Other Methods of Testing for Skills

There are numerous ways to test study skills besides setting up a series of objective test items. In the list at the end of this section, several suggestions are offered to teachers about other methods of testing study skills. The methods are difficult or unwieldy as a basis for the construction of objective test items, although they lend themselves readily to development in individual classrooms. Materials which are immediately available to any particular class are often most suitable for use in constructing exercises of the types described. One of the most fruitful sources of supply would be a local newspaper or the published reports of local institutions, such as the city government, utility companies, or industrial or mercantile concerns.

Teachers who make use of this Bulletin are urged to use the exercises and suggestions contained in it as a starting point in directing the learning and development of more efficient study skills rather than as an end point to measure the relative mastery of particular skills or groups of abilities. The authors hold this point of view so strongly that they feel that this section of the Bulletin may be just as stimulating and useful to teachers as the section which contains specific test items. The alert teacher will construct items with data of his own selection, possibly using the items presented as a basis for form, or will construct different forms which may seem more suitable for the particular material or purpose. He may also foster the development of additional study skills and critical abilities by intelligent adaptation of the exercises suggested below.

1. *Outlining.* Students may be assigned to prepare an outline of some portion of the text, and be given a limited amount of time, such as five minutes. Outlines may then be compared and criticized in regard to form, content, clarity, and completeness. The assignment may be to prepare a detailed study outline, as for reference purposes, or merely a brief sketch outline of main points.

2. *Summarizing.* Students may read a paragraph new to them and then write a summary of it. This may vary from practice in writing a single-sentence summary to a more extended one. When students have finished, their summaries should be discussed and compared in the light of the material in the original paragraph.

3. *Constructing graphs.* The same statistical information may be represented by a variety of graph forms. The teachers may conduct a class exercise or assign as individual projects the conversion of data presented in tabular form into different graphical representations, such as circle, bar, or line. If statistical information is found in descriptive rather than tabular form the process may be carried all the way through from tabulation to construction of one or more graphs.

4. *Taking notes from a speech.* The teacher may suggest that students take notes or make an outline of a speech which is to be delivered over the radio or television and which students will have the opportunity to hear outside of school hours. Outlines and notes may then be brought to class for discussion and criticism. The teacher may wish to give a brief lecture which has been clearly organized, and by an examination of pupil's notes diagnose the difficulties he may be having in getting proper perspective, relationship, and form.

5. *Visualizing from a written description.* The teacher may locate a page or so in the text which gives a definite description of a battlefield or a settler's cabin. Students may try to draw a floor plan of the cabin, for instance, including all the furniture mentioned in the description in its proper place. They may then check with each others' plans for the purpose of improving their own or criticizing the given description for lack of clarity or definiteness.

6. *Visualizing from an oral description.* A situation similar to the previous one may be set up, except that the teacher or one of the pupils may read a description from some source with which the pupils are not familiar. They may then try to sketch out the plan of whatever is contained in the description and compare papers afterwards for discussion.

7. *Observing.* The class may observe a picture in the text or in the classroom and then list individually how many facts can be observed or inferred from the picture about the historical scene or background which it represents.

8. *Reading.* Students may read a paragraph from the text—then close their books and recall such data as facts, generalizations, arguments, and illustrations given in the paragraph. This should be a paragraph which the students have not seen previously.

There are many other activities fostering desirable skills which may be developed in a similar fashion. A few in addition to those described above may be listed specifically:

9. *Interpreting cartoons*
10. *Following directions*
11. *Participating in a panel discussion*
12. *Taking part in a debate*
13. *Planning and taking part in dramatic activities*
14. *Planning trips, diaries, letters, news items, etc.*
15. *Map-making*
16. *Drawing cartoons and posters*
17. *Constructing models*
18. *Classifying collections of specimens*
19. *Planning and preparing exhibits*
20. *Participating in a mock trial or pantomime*
21. *Interpreting charts, diagrams, and tables*
22. *Interpreting maps*
23. *Analyzing pictures*
24. *Analyzing tape recordings*
25. *Evaluating critically models and realia*
26. *Taking part in an interview*
27. *Classifying items in a list*
28. *Performing experiments*
29. *Making a survey in the community*
30. *Evaluating events in history*
31. *Applying principles to new situations*
32. *Synthesizing from a body of data*

A wealth of additional suggestive material may be found in comprehensive lists of desirable social-studies activities published in one form or another accessible to most social-studies teachers. Excellent lists may be found in Kelley and Krey (51, p. 64f.), Wesley (87), and Wilson (92).

How To Use This Bulletin

Criteria for Appraising Classroom Tests

In 1937 Brownell suggested several criteria other than the usual ones of validity, reliability, and objectivity to be applied in determining the value of classroom tests (20). The thought-provoking criteria were presented in question form, as follows: (a) Does the test elicit from the pupils the desired type of mental process? (b) Does the test enable the teacher to observe and analyze the thought processes which lie back of the pupils' answers? (c) Does the test encourage the development of desirable study habits? (d) Does the test lead to improved instructional practice? (e) Does the test foster wholesome relationships between teacher and pupils? These suggestions are especially stimulating because they strike at the weaknesses of many objective achievement examinations, especially those with a high percent of factual content.

The authors of this Bulletin feel that the types of exercises provided in it meet Brownell's criteria better than tests of the usual achievement type. Desirable mental processes are elicited since many of the items require the exercise of desirable mental skills or processes in their successful execution. The varieties of skills tested and the forms of the exercises should materially aid the teacher in observing and analyzing pupils' thought processes. Since the exercises are intended to stimulate the development of study skills and critical thinking, they should be of service in encouraging the development of desirable abilities. Attention to the development of skills in teaching should lead definitely to improved instructional practice, and finally through open classroom discussion after the tests have been administered, there should develop wholesome relationships between teacher and pupils in the common task of learning how to think more clearly and effectively in the field of the social studies.

Range of Skills Included in This Bulletin

The authors of this Bulletin have adopted a very broad interpretation of the term skills. The processes of acquisition, evaluation, and use of learning in the field of social relationships are so intricate and so entirely conditioned by the immediate situation that it would be fruitless dialectics to try to draw fine distinctions between knowledge and skills. Some manipulations are more obviously on the mechanical side and may be reduced almost to the point of automatic response. Such are the

so-called basic skills of writing, word recognition, ciphering, and simple place location. Yet these cannot be developed nor exercised without a certain fund of factual learning. At the other end of the scale are skills which involve higher mental processes and are more closely interwoven with acquired knowledge. Such are skills of critical-mindedness and related abilities of refraining from jumping to conclusions, evaluation of given sources of information, analysis of related parts of a problem, and retention of an open mind. Within this range are other skills or abilities such as those of proper use of reference material, interpretation of social data presented in tabular or graphic form, and making of an adequate summary.

There may be certain types of exercises which teachers feel should be included in any bulletin of social-studies skills, but which they do not find among those presented here. These are skills such as reading comprehension, map-reading, and ability to use the library. There is no question but that these skills are significant parts of the social-studies program. But the authors felt that these areas had been well developed by writers who have published tests for these skills. Therefore they felt that other less accessible exercises would be more useful to teachers. Those teachers who may be interested in securing information about tests of the other skills are directed to the many entries under the relevant headings in the bibliographies edited by Buros and Hildreth.[1]

There are also no test items included which require the ability to reorganize given material by way of reconstructing an outline or selecting the most adequate summary. There is ample evidence that objective exercises may be constructed for testing these abilities. But exercises of this type require a considerable amount of space. Furthermore, as indicated in a previous section of this Bulletin, the abilities in question can probably be better developed by the use of materials forming part of the regular day's work, where the teacher's immediate judgment forms the basis for evaluation. More detailed suggestions for classroom activities of this nature may be found in social-studies literature.

Recommendations for Using Test Exercises

There are a few definite recommendations which may be made in regard to the use of this Bulletin. It is not intended to be used as a "final examination" in the manner of an achievement examination. The purpose of these exercises is not to give a definite score or mark for a specific level of attainment, but rather to stimulate pupils to further learning in the fields of endeavor from which the items are drawn. The

[1] See Bibliographies of Tests, p. 97.

exercises in the Bulletin are diagnostic in that they may help to identify individual difficulties in study habits and thinking processes. They should also stimulate students to concentrate more consciously on the development of desirable skills.

Much of the potential value of the exercises will be lost if the results are not discussed in class after portions of the tests have been given. In the free discussion of items and expression of reasons for pupil responses there lies the opportunity for development of skills in which pupils may be deficient. The processes of study skills and reflective thinking cannot be effectively learned by using this Bulletin unless pupils understand the reasons for the marking of the correct responses in the items.

Section XVI, for instance, is devoted to a series of rankings of three possible sources for knowledge about each of several historical events or characters. Part A in this section asks the student to rank three possible sources of information in the order of their reliability in giving an accurate account of the religious beliefs of the ancient Egyptians. These are, in the order presented in the item, a moving picture dramatizing the love affair of Anthony and Cleopatra, a newspaper account in the "Sunday Magazine Section" of excavations of an old Egyptian temple, and third, a translation of an inscription on the walls of an old Egyptian tomb. The student who could rank these three accounts in their proper order could doubtless tell why he had chosen such a ranking unless his response had been based on pure chance. Certainly he could not attain a high percent of correct responses on exercises of this nature unless he had developed the skill of historical criticism to at least a minor degree.

Even the student who makes a large number of correct responses will add to his skill in criticism by discussing the reasons for his responses. The student who consistently ranks items incorrectly should be encouraged to explain the reasons for his ranking. In this way the teacher can discover individual weaknesses and by explaining patiently the reasons for the correct ranking can begin the development of critical skill in pupils of even limited academic ability. Results of the administration of experimental batteries of items of this sort, with subsequent discussion, have brought two interesting facts to light. The first is that there are many students in the first years of the high school who show a distressing näiveté in their consideration of the sources of knowledge. Some of them were mystified as to why there should be any point to ranking the sources. They appeared to hold the attitude that it made little difference where the "facts" came from. The second is that many high school pupils have implicit faith in the historical accuracy of the

motion pictures, historical novels, and radio and television broadcasts. Both of these situations present a challenge to the social-studies teacher.

Sample exercises have not been provided in all sections of the Bulletin because the authors feel that examples sometimes detract from the effectiveness of a test of real skill. Pupils who possess the skill under consideration should be able to solve the problem or complete the exercises without the crutch of a sample item. The pupil who lacks the skill tries to answer the exercises by making his responses as nearly parallel as possible to the sample. This is a different mental process from that which is really supposed to be tested by the exercises. The same situation is true when there are "determiners" in a series of exercises which may indicate a pattern that the pupil may seek out in selecting the correct responses rather than go through the desired type of mental process. Therefore, teachers should not answer questions about individual items nor provide examples when the exercises are administered. By constant refinement of the directions, the authors have tried to make them perfectly clear even to pupils of limited ability. The teacher should be sure that the pupil understands the directions. Then he should be able to answer the items as required if he possesses the essential skill. If he understands the directions and yet cannot answer the items, he should receive no further help, because that is just what the teacher is trying to find out. Such a pupil does not have the skill for which the exercises are testing.

Some of the forms in which exercises in this Bulletin are presented have been adapted directly from published material concerned with study skills. Some of the forms have been developed by the authors as original forms in the attempt to measure certain skills for which there seemed to be no available tests.

The problem of testing for some of the less definite outcomes of instruction is an interesting one. How, for instance, could one evolve an objective exercise which might be said to give an indication of the relative degree of open-mindedness which a student may have? In approaching this problem, it is advisable first to find a course of action which would distinguish between those who possess this quality and those who do not. The individual with a "closed mind" is one who is prone to draw conclusions based upon insufficient evidence and especially to cling to an idea once formed and refuse to modify it by considering additional evidence which may conflict with his set opinion. A person who reacts in this way would be much more likely to make broad and unqualified generalizations than would one who retained an open mind. Thus in Section XI the student is given the choice of one of five words at the beginning of a series of statements which, if under-

scored, would in his opinion best complete the statement. The two extremes of these five words, *All* and *No,* if underscored would make the statement too broad and unqualified to be accepted by one who was cautious about making completely unqualified generalizations. In scoring this exercise, no attention is paid to the underlining of any of the three middle words, *Most, Many,* or *Some,* since any one of these, though it might be questioned as making an entirely accurate statement in any one case, yet leaves room for some qualification and does not close the door to further thought, as do the two extremes. Thus it is assumed that the student who underscores *All* or *No* in a large number of these statements does not have an open mind, so that the degree of open-mindedness is indicated in individual cases by a small number of the extreme words underscored. This section is based on experimental work done by Watson (86). Naturally, an exercise of this type can be used only once with the same pupils after it has been discussed in the class.

One other section may be discussed briefly to give an indication of the logic underlying the form of the item. In Section VIII, for instance, the student is to distinguish between statements of fact and statements of opinion. Item 11, "Strikes are not justified because the public often suffers," is a statement with which many students, as well as other people, may agree. Those who do not think it through may be tripped by their emotional set, and feel that a statement with which they agree is a statement of fact. It takes a rather high degree of mental discrimination to recognize the difference between "facts," as such, and opinions strongly held, which we are prone to regard as facts.

In many other sections of the Bulletin the form of the exercise has been evolved so that it will distinguish in some such way between students who have command of the skill or mental process under consideration and those who do not. There are so many thought processes required in the field of the social studies that exercises such as these can indicate only a part of the total critical skills which any student may possess. There may also be many other ways of testing for the same skills than by means of the forms of exercises contained in this Bulletin.

Teachers may copy the form of the exercises, using material more relevant to the courses they are teaching, or may develop new forms from the suggestions herein contained. The authors would be pleased to receive suggestions from teachers or others interested in the tests as to additional types of items which might be attempted, or criticisms of the items presented here. They would be especially interested in hearing about the administration of some of the sections on the elemen-

tary-school level, since only a few items were tried out at this level during the administrations of the exercises in experimental form.

The authors would be reluctant, however, to debate at any length the question of whether these items measure skills only or involve factual learning and understanding also. The abilities tested have been considered as skills rather than as knowledge or understanding for the purpose of this Bulletin and not at all because the authors believe that they are aspects of learning separate and unrelated to one another. Nor are these items designed to test any one program of instruction. They may be used as printed or modified to suit a particular situation or variation in subject matter.

Upon one point, however, the authors are unqualifiedly certain: The use of the exercises in this Bulletin is certain to provoke stimulating classroom discussion and the realization of the importance of doing more work in developing skills.

The fact that the earlier editions of the Bulletin have become exhausted would seem to imply that teachers are devoting increasing attention to study skills. The authors hope that the present revised edition will be even more helpful to those who are interested in this fascinating problem.

Selected Items for the Testing of Study Skills and Critical Thinking

Note: All items are keyed with the proper response—usually in italics within the parentheses in the left-hand margin—with the exception of those in Section XI. In all cases the "Directions" are for the pupils and should be included with the items when these are reproduced for use.

Section I. Exercise on Acquiring Information

One of the skills which receives a major share of attention in statements of objectives of social-studies instruction is the ability to find relevant information. Some teachers go so far as to say that it does not matter if the pupil does not know the answer to a given question if he knows where he can find the proper answer. Be that as it may, it is undeniable that one of the first and most important learnings in any field is how to go about the process of acquiring pertinent data.

In the items which follow immediately, an attempt is made to determine whether or not pupils will recognize the most appropriate way of starting to gather information. In Part A, Using Common References, the selection of the proper response is very likely an indication that the pupil has acquired the knowledge necessary by actual practice of the skill, or use of the references listed.

This section is one which depends for its successful completion upon knowledge previously acquired rather than upon the operation of a process for which all necessary data are furnished in the exercise itself. The authors have included several such exercises in this Bulletin for two general reasons. First, as explained in the Introduction, the possession of such knowledge is a fairly reasonable indication that the possessor has actually engaged in the skill or operation involving the use of materials rather than that he is repeating verbalized learning which has no real meaning to him. Second, exercises of the types referred to have been given some attention in the literature dealing with study skills, so that these exercises are also included for the sake of comprehensiveness.

Part A. Using Common References

Directions: **The degree to which a social-studies library is useful to students is determined partly by the ability of students to obtain needed information. Below are two lists. One contains those books which could compose a Social Studies Reference Shelf. The other contains a list of questions which you might wish to have answered. Do *not* try to answer the questions.**

Indicate whether you could find the answers, by placing beside the *number* of the question the *letter* of the reference work in which you would be likely to find the answer most satisfactorily.

Example: (F) O. How many students are enrolled in American colleges and universities? The answer *F* refers to the *World Almanac,* a handbook of current information.

Reference Shelf

A. *Dictionary of American History*
B. An Atlas
C. *A Guide to the Study of the United States of America*
D. *Historical Statistics of the United States*
E. *Who's Who in America*
F. *The World Almanac*
G. *Readers' Guide to Periodical Literature*
H. Official State Government Handbook
I. *Dictionary of American Biography*
J. *Harvard Guide to American History*

Questions

(B) 1. How does North America compare in size with Africa?
(H) 2. Who is the chief justice of your state supreme court?
(F) 3. How many persons were killed by autos last year?
(A) 4. When was the Cumberland Road built?
(H) 5. Who is the official custodian of state law?
(G) 6. What was the political significance of the last Congressional election?
(F) 7. How much cotton was exported from the United States from 1960-1970?
(I) 8. Where was Patrick Henry, the Revolutionary orator, born?
(C) 9. Where is a description of Botkin's *A Treasury of American Folklore?*
(J) 10. What work has a short essay on "Methods of Note-Taking"?
(G) 11. What events preceded the formation of the United Nations?
(D) 12. What was a basic weekly diet for the British Army in Canada in 1761?
(A) 13. What was the route of the Oregon Trail?
(F) 14. How many immigrants came to the United States last year?
(E) 15. What public offices has the present Secretary of the Interior held?
(J) 16. Where is a description of American Manuscript collections?
(B) 17. How long are the Rocky Mountains?
(A) 18. What territory was covered by Lewis and Clark on their exploration trip?
(E) 19. What are the names of the children of James B. Conant, former president of Harvard University?
(D) 20. What was the value of furs exported to England by the American colonies, 1700-1775?
(G) 21. What is the title of a recent article in *The Nation* concerning Chinese-American relationships?
(B) 22. What city in South America lies on the equator?
(I) 23. Was General George B. McClellan, a Northern general during the Civil War, a graduate of West Point?
(G) 24. Who was the author of a story in the *Saturday Review* titled "Drugs: Ten Years to Doomsday"?

(A) 25. Who commanded the American naval expedition against the Barbary States of North Africa in 1803?
(E) 26. What was the date when Arthur Goldberg resigned as a Supreme Court justice?
(I) 27. Was Winslow Homer, the famous American painter of water colors, ever married?
(A) 28. Why was the Scopes trial important to the schools in Kentucky?

Part B. Getting Material

Directions: **Place the number of the option which most correctly completes each of the following statements in the space provided.**

(3) 29. To locate the page in a text that gives information about Jackson's inauguration one should use the (1) bibliography (2) appendix (3) index (4) table of contents (5) preface.
(2) 30. The appendix will usually be found in which part of a book? (1) Before the preface (2) Back (3) Middle (4) Front (5) After the title page.
(5) 31. The part of a textbook which contains copies of documents, lists of presidents, etc. is called the (1) glossary (2) index (3) preface (4) table of contents (5) appendix.
(4) 32. To determine whether an American history book contains a chapter titled "The American Revolution" one should (1) read the index (2) go through the book page by page (3) read the summaries (4) read the table of contents (5) read the preface.
(2) 33. What is the best book to use to obtain a brief account of the life and work of prominent people of today? (1) American history text (2) *Who's Who in America* (3) Civics text (4) *World Almanac* (5) Source book.
(2) 34. Which is the best book to use to obtain the size and area of the states in the United States and the counries of Europe? (1) *Who's Who in America* (2) *World Almanac* (3) Civics text (4) American history text (5) European history text.
(1) 35. A list of references is called the (1) bibliography (2) autobiography (3) biography (4) encyclopedia (5) appendix.
(5) 36. For a brief account of the life of President Washington one should use the (1) atlas (2) *World Almanac* (3) *Who's Who in America* (4) *Readers' Guide to Periodical Literature* (5) encyclopedia.
(2) 37. To learn what the abbreviations used in the *Readers' Guide to Periodical Literature* represent one should (1) ask the librarian (2) look in the front of the book for an explanation of how to use the book (3) ask the teacher (4) try to figure out the meaning by reading several pages containing abbreviations (5) look in a dictionary.
(1) 38. To compare the state government with the national government means to (1) select items which show the differences and likenesses between state and national government (2) select items that will show only the likenesses (3) select items that will bring out the qualities of state and national government (4) describe each (5) discuss each.
(4) 39. A textbook in American history contains the statement that "the Constitution provides for the popular election of senators." To test the accuracy of this statement one should (1) read about the election of

senators (2) write to the senator from the state (3) write to the congressman from the district (4) read the document in question (5) ask the teacher.

(3) 40. Which of the following would be most appropriate as a reference in writing a long theme on the subject of "The Monroe Doctrine"? (1) Bartlett's *Familiar Quotations* (2) *Who's Who among North American Authors* (3) *Encyclopedia Americana* (4) Putnam's *Historical Atlas* (5) Haggard's *Devils, Drugs, and Doctors.*

(1) 41. Which of the following is the best way to start attacking a social problem? (1) Analyze it into parts for closer study, (2) Try out the first solution that comes to mind, (3) Discover how the problem happened to arise, (4) Collect reference material about the problem, (5) Construct theories about how the problem arose.

(5) 42. Which of the following is *not* a good method to use in attacking a social myth? (1) Establish the actual meaning of the myth, (2) Compare the meaning with objective data drawn from reliable sources, (3) Establish the assumptions and implications of the myth, (4) Show how human beings have reacted to the myth, (5) Interview a fair number of people to determine truth or falsity of the myth.

(3) 43. Which of the following is the best method of preparing yourself to write a term paper on a topic about which you know nothing? (1) Reading detailed accounts, (2) Examining pictures to get accurate details, (3) Reading a general account, (4) Discussing the topic with friends, (5) Reading a novel.

(1) 44. If you wanted to get a start on getting material for a report on atomic energy, a topic about which you knew relatively little, which would be the first of the following accounts that you would want to read? (1) An article in the *Encyclopaedia Britannica,* (2) An article in a scholarly magazine, (3) A picture essay in *Popular Science* magazine, (4) The *Readers' Guide to Periodical Literature.*

(4) 45. If you were using a reference book on European history, and wanted to find out quickly whether or not it told about the Crusades, which of the following would be best to do? (1) Look in the Introduction, (2) Leaf through the book quickly, page by page, (3) Check the section or margin headings, (4) Look in the Index, (5) Skim through the Preface.

(5) 46. If you wanted to find out an author's purpose in writing his book, you would be most likely to find it in the (1) Table of Contents, (2) Epilogue, (3) Section or margin headings, (4) Index, (5) Preface.

(2) 47. The year in which an American book was published usually can be most easily found out from the (1) printer's date inside the cover, (2) copyright date, (3) sub-heading on the title page, (4) date heading in the index, (5) preface.

(1) 48. If you discover that the authors of two different textbooks have given different figures for the total number of men who signed the Declaration of Independence, the best way to find out which one is right is to (1) find a copy of the document and count the names yourself, (2) check the number in the encyclopedia, (3) believe the author of the book which is most recent, (4) consult several other textbooks, (5) read the text of the Declaration of Independence.

Section II. Determining Relative Length of Historical Periods

In studying history, so much attention is often given to individual dates and events, or is focused on such limited periods of time, that pupils may lose perspective. A grasp of broad time relationships should be just as much an outcome of learning in history as are individual dates or a knowledge of the sequence of a series of events or developments. In this section pupils may be able to give the correct response even though they could not give pertinent dates. In order to mark the correct answer, however, they would need to have a grasp of broad time relationships and comparisons.

Although this section, like several others, depends upon previously acquired knowledge for its successful completion, it has been included in part because the literature in the field of study skills has devoted some attention to what is variously referred to as "skill in developing a sense of chronology."

In developing such a time sense it is helpful to compare other "periods" with one of known duration, such as the time which has elapsed since the signing of the Declaration of Independence in 1776. In this way pupils may avoid the rather common error of assuming that our period of existence as an independent nation is a comparatively long one in the sweep of recorded history.

Directions: **Following are a number of historical "Periods" or "Ages" grouped in *pairs*. In *each* pair, *one* of the two periods lasted LONGER than the other. Mark this one with an X, as in the example.**

Example: (*X*) 1. The Ice Age
( ) 2. The Age of Steam Power

(*X*) 1. Period of Ancient History
( ) 2. Period of U.S. as an Independent Nation (since 1776)

(*X*) 3. Period of Medieval History
( ) 4. Period of Modern History

( ) 5. The "Age of the Reformation"
(*X*) 6. The American Colonial Period

(*X*) 7. Period of the Renaissance
( ) 8. Period of Contemporary History

( ) 9. New Stone Age
(*X*) 10. Old Stone Age

(*X*) 11. Age of Egyptian Civilization
( ) 12. Age of Grecian Civilization

(*X*) 13. Period of Ancient History
( ) 14. Period of Modern History

(*X*) 15. Age of Feudalism
( ) 16. Reconstruction Era (U.S.)

( ) 17. Period of Medieval History

(X) 18. Iron Age
(X) 19. Age of Grecian Civilization
( ) 20. Period of Discovery and Exploration in the New World
( ) 21. The Bronze Age
(X) 22. The New Stone Age
( ) 23. Period of Contemporary History
(X) 24. The American Colonial Period
(X) 25. Period of Ancient History
( ) 26. Period of Medieval History
( ) 27. Period of Contemporary History
(X) 28. Period of U.S. as an Independent Nation
(X) 29. Age of Feudalism
( ) 30. Period of U.S. as an Independent Nation
( ) 31. Reconstruction Era
(X) 32. Period of U.S. as an Independent Nation
(X) 33. Period of Renaissance
( ) 34. Period of U.S. as an Independent Nation
(X) 35. Geological Time
( ) 36. Biological Time
( ) 37. Period of Written History
(X) 38. The Ice Age
(X) 39. The New Stone Age
( ) 40. Period of Written History
( ) 41. Period since Steam Power Was First in Use for Railroad Engines
(X) 42. The American Colonial Period

Section III. Reading and Interpreting Graphs, Charts, and Tables

In this Bulletin there are many examples of graphic presentation: simple circle graphs and line graphs; bar, profile, and combination line graphs; and tables of statistics. They are the forms commonly used in social-studies materials and are readily available in most mass-produced publications.

Teachers interested in developing skill in using these materials could appoint class committees to collect good and bad examples and display them on a bulletin board or in a scrapbook. Each example should be mounted on suitable paper together with the source from which the example was taken and appropriate criticism and explanations.

If pupils construct graphic reports themselves, they will soon develop an awareness of the difficulties of classification of social-science statistics and the dangers inherent in oversimplifying them for graphic purposes. In developing critical thinking with graphic materials the pupils should be encouraged continually to ask questions such as: Is the chart accurate? Do percents and other figures add up? Is the scale used for the graph

exaggerated or depreciated? Is the standard for the graph abnormal in size, color, or shape?

The scale or standard used for comparison or contrast in graphic materials often makes a critical difference in the understanding of the graph by the pupil. If, for example, present standards are compared with those of 100 years ago the pupil may become unduly optimistic in his conclusions. On the other hand if some abnormal period is chosen for the standard, the pupil may be unduly pessimistic in his conclusions. If the potentials of society or institutions are chosen for the standard, then the pupil could deplore the failure of society to realize them. In each of these examples there are always intangibles and other factors not included in the graph. The alert teacher will always lead pupils to consider and to be aware of sweeping conclusions made solely on the basis of the facts which any one graph presents. In any case pupils and teachers should watch for "tunnel" vision; but that is not always enough for it also makes a difference what end of a telescope one is looking into.

Reading of Simple Circle Graphs

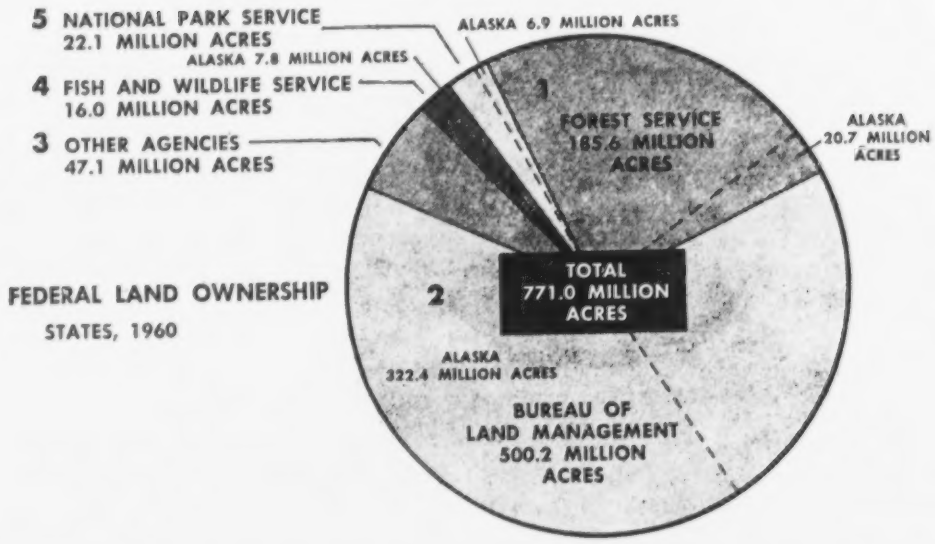
A circle graph presents data in the form of a circle. The circle is divided along radii so that the angle of each section is always proportional to the facts which the circle represents. For the most part the same facts used in circle graphs could be just as well represented by a bar graph. One general rule to be followed in constructing circle graphs is that the divisions of the circle should be arranged clockwise with the 12 o'clock mark as the starting point. This is a flexible rule, however, because sometimes it is advisable for artistic balance and eye appeal to place the largest division at the top. Other helpful considerations in constructing and criticizing circle graphs are that circle graphs should seldom be used when the divisions are so slight that the eye has difficulty in noticing the difference; that shading often makes the circle graphs easier to read; and that labels usually are kept on a horizontal plane except when the small divisions make this suggestion impossible even by using arrows.

Graph A

Directions: **The circle graph on page 42 shows the distribution of Federal land ownership as of 1960. The figures on the chart refer to round numbers. Use the symbols 1, 2, 3, 4, or 5 for your answers.**

Questions on Graph A

(2) 1. Which government agency controls the most Federal land?
(4) 2. Which government agency controls the least amount of Federal land?
(3) 3. What government agency does *not* manage land in Alaska?
(4) 4. In what agency does Alaska have almost half the acreage?
(2) 5. Which agency controls the most land in Alaska?
(2) 6. Alaska accounts for about three fifths of the land in what agency?
(1) 7. Which agency controls about one quarter of Federal land?



From *Outdoor Recreation for America.* A Report to the President and to the Congress by the Outdoor Recreation Resources Review Commission. Washington: Government Printing Office, (Jan.) 1962. [Laurance Rockefeller, Chairman] Lib. Cong. No. 62-60017.

Reading of Bar Graphs

In Graph B the bars represent 100 percent. Another use of the bar graph is to have the length of the bars indicate values. When the bars are vertical they are often referred to as a "pipe-organ" graph and when the bars are connected, as an outline or profile bar graph. When the bars are differentiated by shadings they are called contrasting bar graphs. In Graphs B, C, D, and E the presentation is horizontal to eliminate the possibility of the eye seeing a curve which in some instances of multiple bar charts may be undesirable. In Graph E the pictures are added to aid comprehension.

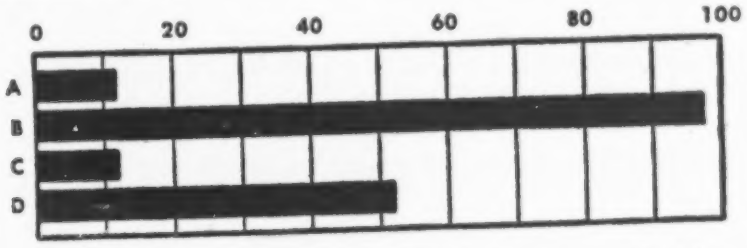
In constructing or criticizing bar graphs note that bar graphs, like line graphs, always include a zero line.

Graph B

The statement that the machine displaces men in production does not apply equally to all industries, but must be analyzed in view of the type of occu tion. The graph following indicates a comparison of technological displacement of workers by machinery in four industries: the manufacture of glass bottles, machine tools, lumber, and cigarette-wrapping.

In some of the major industries the machine and one operator handle the work formerly done by almost a hundred workers, as in the wrapping of cigarettes. Displacement has not brought such a serious unemployment

problem to the lumber and machine-tool industries, for instance, where the nature of the work is such that eighty-eight men out of a hundred are still needed in spite of the large-scale application of machinery. In the manufacture of glass bottles the situation is part way between that of the other occupations under consideration, since fifty-four men are displaced by the machine and operator.



Number of Men Displaced by One Operator and Machinery

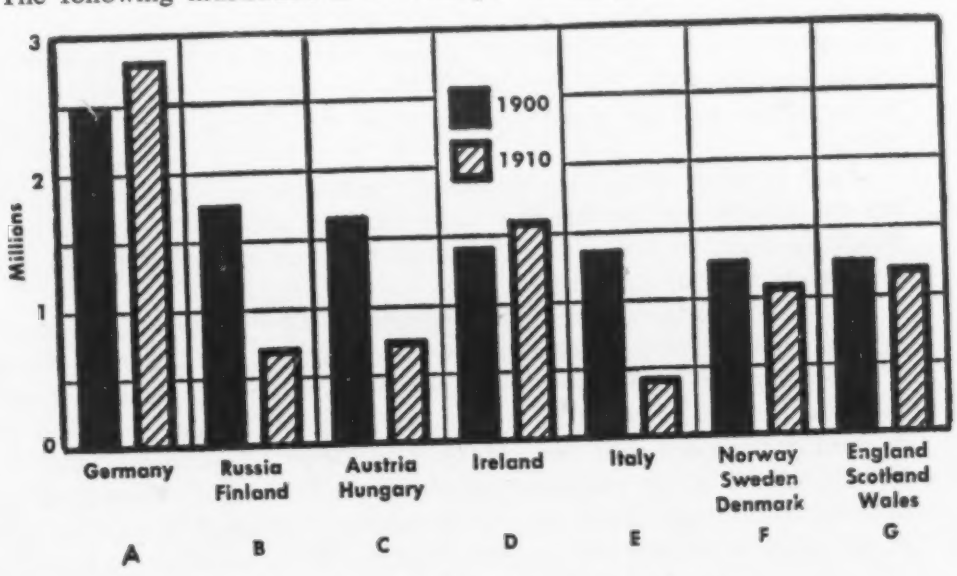
Questions on Graph B

Write A, B, C, or D in the space before the number of the question (numbered as below) to indicate the type of industry to which each lettered bar of the graph refers.

(D) 8. Glass-bottle industry
(A or C) 9. Machine-tool industry
(C or A) 10. Lumber industry
(B) 11. Cigarette-wrapping industry

Graph C

The following illustration is an example of another type of bar graph.



Foreign-born Population of the United States

This type probably is more familiar to social-studies students than the previous one. This graph shows the foreign-born population of the United States by the principal European countries of their birth, comparing the years 1900 and 1910.

Note that each of the countries has been given a letter symbol. Use these when answering the questions.

Questions on Graph C

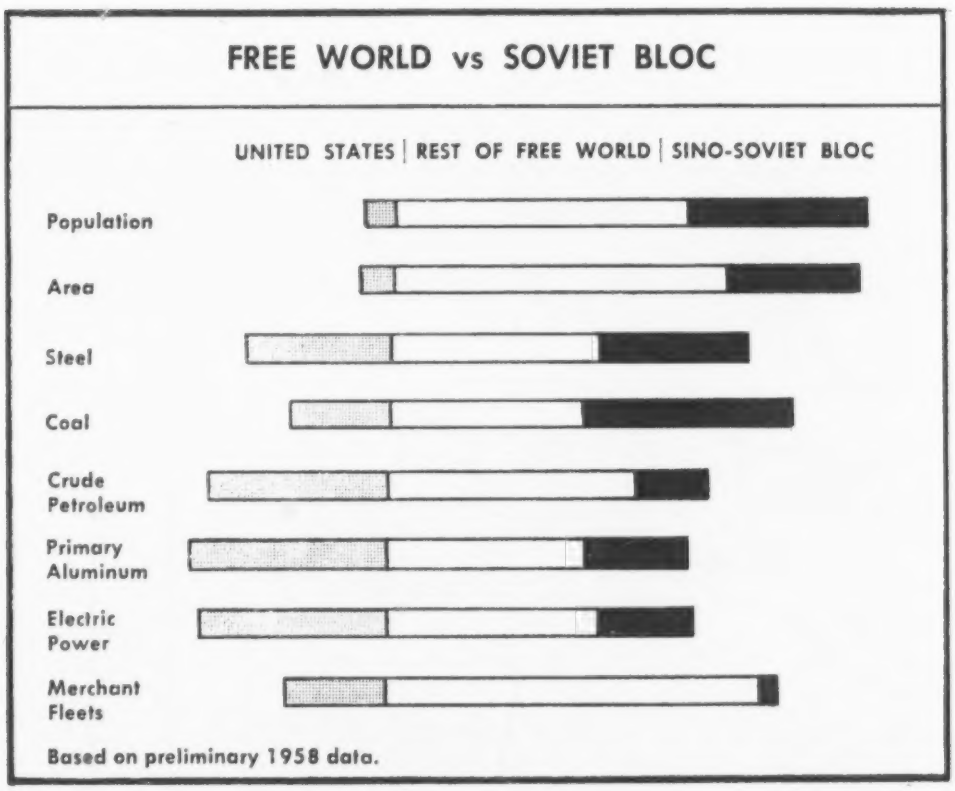
(A) 12. Which country contributed the most people in 1900?
(A) 13. Which country contributed the most people in 1910?
(G) 14. Which country contributed the fewest people in 1900?
(E) 15. Which country contributed the fewest people in 1910?
(D) 16. What part of the British Isles contributed the most people in 1900?
(1900) 17. Which year shows the greatest number of foreign born entering the United States?
(A) 18. Which country contributed the greatest number of people in both periods?
(E) 19. Which country contributed the least number of people in both periods?
(C) 20. Did the B or C group contribute more people in 1910?
(G) 21. Which country contributed almost the same number of people in both periods?
(D) 22. Would you say that immigration increased (I) or decreased (D) from 1900 to 1910?
(A, D) 23. What *two* countries contributed more people in 1900 and 1910 than any other combination of two countries?

Graph D

A 100 percent bar graph is one in which a single bar represents 100 percent and the divisions of the bar represent percents of the whole. Graph D is made up of a number of 100 percent bar graphs for comparative purposes. Straight bars are easy to divide into parts representing percents of the whole and are more convenient to use and construct than circle graphs.

In any example the bar should be wide enough to show differences clearly but not so wide that the facts are distorted. In shading parts of the bar care should be taken so that the shadings will not seem to make the bar sag or to develop other optical illusions.

The shading of the graph is not important. It is for the purpose of separating one section of the graph from another. Students should develop the skill of estimating the length of each part of the bar without recourse to counting each line or mark of the shading. Percent scales outside the bar enable it to be read more easily and the additional inclusion of percents within each division of the bar is a decided advantage to the reader. They have been eliminated in Graph D because the exercise was designed to test the ability of the pupil to estimate the various percents. When constructing bar charts



From *Mutual Security Program.* Fiscal Year 1960. A Summary Presentation, March, 1959. Department of State, Department of Defense, International Cooperation Administration.

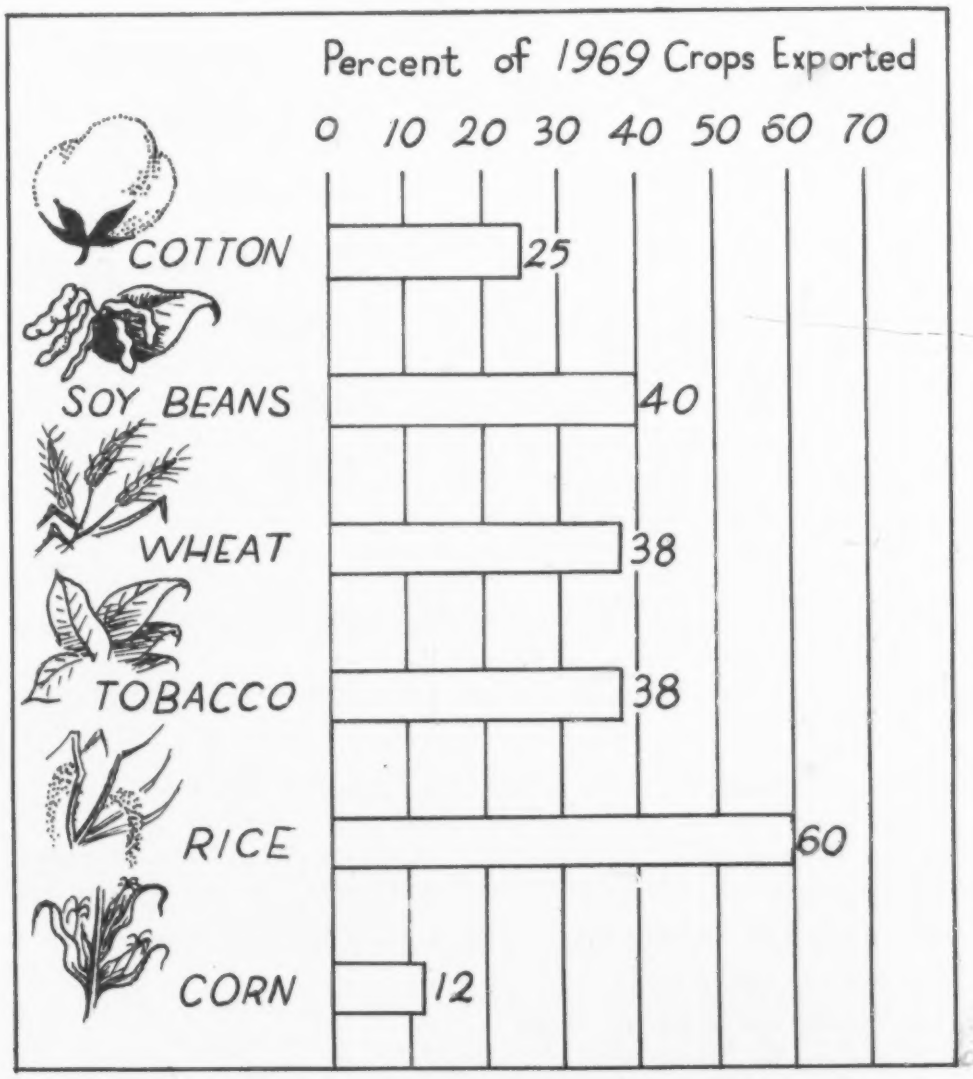
where comparisons are made there should be some consistent order of arrangements such as: time series, magnitudes, geographical, alphabetical, or natural. In Graph D the arrangement of the parts is a common natural one and was chosen as being better suited than an alphabetical arrangement.

Directions: **Use the following symbols in answering each question.**

1. **For the United States.**
2. **For the rest of the free world.**
3. **For the Sino-Soviet Bloc.**

(1) 24. Which area has the smallest population?
(3) 25. Which group has the smallest merchant fleet?
(3) 26. Which group produces the most coal?
(1 & 3) 27. Which groups are about equal in the production of steel?
(1) 28. Which group produces more primary aluminum?
(2) 29. Which group has the most electric power?
(2 & 3) 30. Which groups are about equal in the production of coal?
(2) 31. Which group leads in three-fourths of things compared?
(1 & 3) 32. Which groups lead in only one area compared?

Exports Provide Outlets for Many Farm Products—Fiscal Year 1969



From *Yearbook of Agriculture 1970*

Graph E

This chart is a common variation of the bar chart in that it contains symbols for ready reference, increase of interest, and general attractiveness. ' critical point is that all symbols should be of the same proportions so that nc undue importance accrues to any one. The chart should be just as meaningful with only the words and the bars.

Directions: **Use the following numbers to indicate your answer.**

1. **The statement is supported by the evidence given in the chart.**
3. **Whether the statement is correct or incorrect cannot be determined by the evidence in the chart.**
5. **The statement is contradicted by the evidence given in the chart.**

Questions on Graph E

(3) 33. The total farm economy of the United States depends upon exports.
(1) 34. Percentage-wise, we export more of our rice than any other crop shown above.
(3) 35. The American farmer would suffer great loss of income if other countries stopped importing our agricultural products.
(1) 36. The United States consumes about three-fifths of the tobacco produced.
(3) 37. The graph demonstrates that economic health in the United States depends upon the economic health of the countries that import our products.
(5) 38. Growers of corn would suffer most from the cessation of exports.
(1) 39. The United States keeps for its own use over half of the soybeans and wheat grown.
(5) 40. Americans consume a greater proportion of their cotton than any other agricultural product shown in the above graph.

Graph F

The illustration on page 48 is usually called a multiple bar chart. It is often used when various items are placed in rank order. The chart illustrates a growing problem in the United States—what to do with leisure time. Every decade sees an expanding population achieving more leisure time, more money to spend, and better travel facilities, most of which is directed towards more and better opportunities to enjoy outdoors.

Directions: **Use the following symbols in writing your answers.**

1. **Proved by studying the chart.**
2. **May or may not be true, but proof is *not* in the chart.**
3. **The chart proves the statement wrong.**

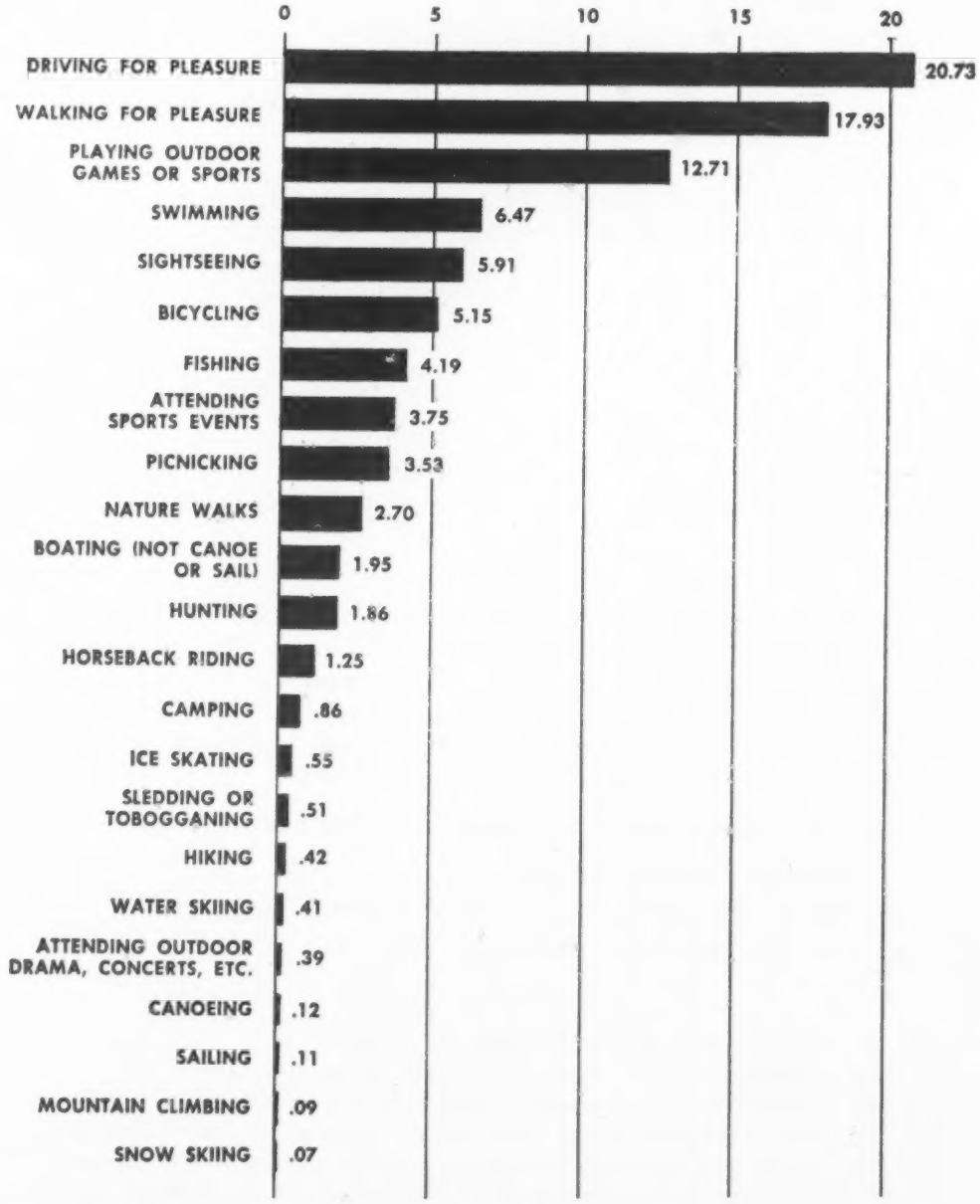
Questions on Graph F

(1) 41. Americans seek simple pleasures most.
(2) 42. Some people go camping for isolation and silence.
(2) 43. Some people go camping where they can be with other people.
(1) 44. The most popular activities are pleasure driving and walking.
(1) 45. Aside from pleasure driving the greatest amount of time is spent on activities which require least preparation or equipment.
(1) 46. Swimming is the most popular summer activity.
(3) 47. Activities that require special conditions, skills, or equipment rank high in the frequencies.

(Questions continued on page 49)

WHAT AMERICANS DO MOST

NUMBER OF ACTIVITY DAYS PER PERSON, 12 YEARS AND OVER
JUNE 1, 1960—MAY 30, 1961

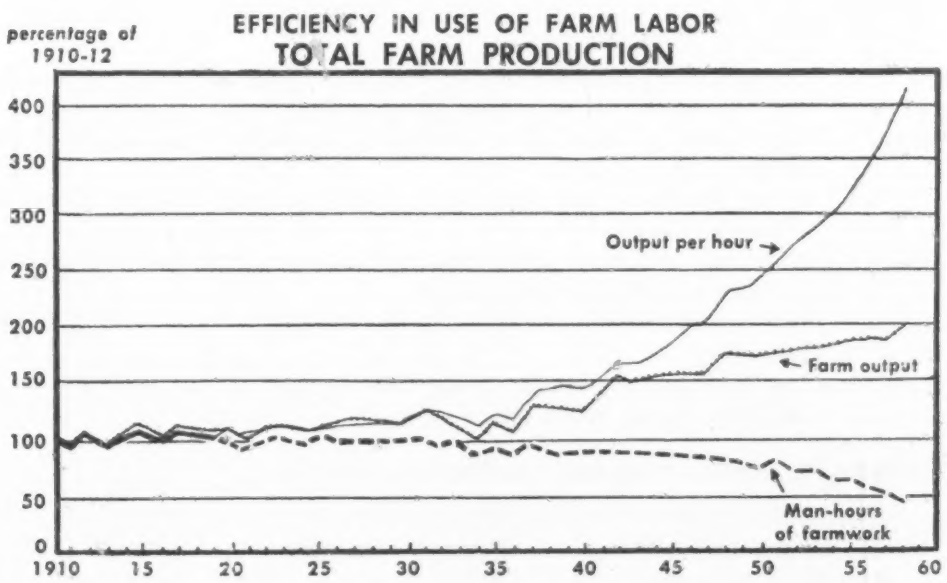


From *Outdoor Recreation for America.* A Report to the President and to the Congress by the Outdoor Recreation Resources Review Commission. Washington: Government Printing Office, (Jan.) 1962. [Laurance Rockefeller, Chairman] Lib. Cong. No. 62-60017.

(2) 48. Fewer people participate in winter sports than in summer sports.
(2) 49. Suburbanites are more active than city people in outdoor recreation.
(2) 50. Activities that require special conditions, skills, or equipment rank high in intensity of personal involvement.
(3) 51. Less time is spent in activities involving walking than in activities involving water.
(2) 52. The children of today do more kinds of things for recreation than their parents did.
(2) 53. Among occupations, professional people enjoy the most recreation, farmworkers the least.
(3) 54. Swimming is the most popular activity.
(3) 55. Activities that require expensive equipment rank high in the frequencies.
(2) 56. Participation in outdoor activities tends to go up as income does.
(2) 57. Occupation has considerable influence on participation in outdoor activities.
(1) 58. Most activities that require special skills or equipment rank low in the frequencies.
(1) 59. A small percentage of the activities listed are also indoor activities.
(1) 60. Fishing is a more popular activity than water skiing.

Graph G

The illustration is sometimes called the multiple line graph. It illustrates efficiency in the use of farm labor. The solid black line represents the work done in one hour by one man. The black line with dots on it (middle) represents total farm output. The broken line represents the number of man-hours of farm work. The statements follow the graph.



From *Yearbook of Agriculture 1960*

Use the following symbols in writing your answers:

1. ***Proved*** **by studying the graph.**
2. ***Neither proved nor contradicted*** **by studying the graph.**
3. ***Contradicted*** **by studying the graph.**

Questions on Graph G

(1) 61. Advances in efficiency of farm labor have resulted directly from fewer hours of farmwork and from greater farm production.
(3) 62. From 1910-1960 farm output per man-hour has risen at an average rate of almost 10 percent a year.
(3) 63. From 1910-1920 farm output per man-hour declined.
(1) 64. Farmers in the late fifties turned out almost four times as much product each hour of work as a farmer did each hour in the years just before World War I.
(2) 65. Chemistry applied to agricultural problems accounts for the increase in farm output between 1915 and 1925.
(1) 66. From 1920-1940 there was a downward trend in the number of man-hours of farm work on farms.
(1) 67. Annual gain in farm output, 1920-1940, averaged about one percent a year.
(2) 68. Annual gain in farm output, 1920-1940, was the result of increased mechanization.
(3) 69. From 1910 to 1960 farm output per man-hour has increased slowly but steadily.
(2) 70. Electric power on the farm has been an important factor in increasing the efficiency of farm labor.
(1) 71. Efficiency of farm labor rose about five percent per year from 1940-1945.
(2) 72. Advances in mechanization helped accelerate the reduction of man-hours of farm work since 1945.
(2) 73. The practical disappearance of work animals on the farm after World War II released land for crops consumed by human beings.
(3) 74. The number of man hours dropped at an annual rate of about ten percent, 1945 to 1950.
(1) 75. Since 1950 the percentage of the reduction of man-hours of work has increased slightly.
(1) 76. There was a greater percentage rise in farm output per man-hour in World War II than in World War I.
(2) 77. The rise in farm wages accounts for the greater use of mechanical power.
(3) 78. The greatest percentage of increase in farm output per man-hour occurred during World War II.

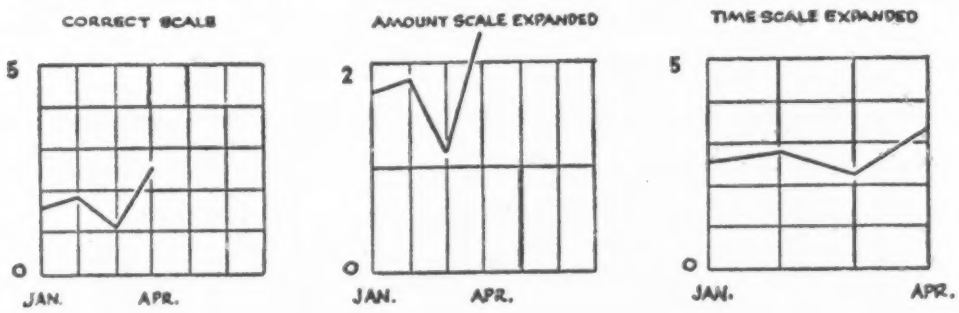
Section IV. Constructing and Reading Line Graphs

Line graphs or curve charts as they are sometimes called are probably the oldest and most widely used of all graphs. They are most successful when used to show successive values at different periods; where several series are to be compared on the same chart; when close reading and exactness are

desirable; and when the emphasis is on *movement* rather than on actual amounts. Line graphs are not always the best form of chart to use when the presentation is for popular appeal; where the emphasis is on *change* of the amounts plotted rather than on total movement; and where there are few values to be plotted. When eye appeal is desirable, the use of illustrations on the chart gives some indication of the material presented. These may be cut from a newspaper or magazine and pasted on the chart to "dress it up."

In constructing and criticizing line graphs a few suggestions should be kept in mind. Many advertisers are notoriously prone to forget standards in chart construction and often misuse facts in their enthusiasm to prove a point. Attention to a few recognized standards will provide average students with the means to develop critical ability when they construct charts and when they see them in print.[2] Time values usually move from left to right on the horizontal scale. Every plotted point has two values: an *amount* value on the vertical scale and a *time* value on the horizontal scale. Most authorities agree that the omission of the zero line on a chart gives a false impression of values when the major interest of the chart is in the *relative* amount of change between points on the same line or curve. There is, however, one exception: when the reader's interest is in the *absolute* amount of change rather than in the *relative* amount of change, the zero may be omitted. The omission should be indicated to attract attention. Two ways to show omission are acceptable and both attest the author's good faith: a straight line at the bottom of the scale waved at each end or a wavy line across the bottom of the scale.

A few other suggestions will prevent pupil and teacher from the pitfalls of chart making: the amount and time scale should be well proportioned [3] and neither one should ever be expanded or contracted while the other remains constant. (See figures 1, 2, and 3 below.) To do so distorts the real meaning



[2] See especially *Time Series Charts: A Manual of Design and Construction.* This was first prepared in 1938 by the Committee on Standards for Graphic Presentation, under the procedure of the American Standards Association. The American Society of Mechanical Engineers sponsored the publication. It may be purchased from their publications department located at 29 West 39th Street, New York City.

[3] The long side of a rectangle is equal to the diagonal of a square constructed on the short side. A rectangle of this proportion is known as "root-two" or "hypotenuse" rectangle.

of a chart and pictures a movement contrary to the facts. Since the amount scale controls the movement of the line or curve a scale should be chosen that will honestly portray facts and aid the accurate reading of the values.

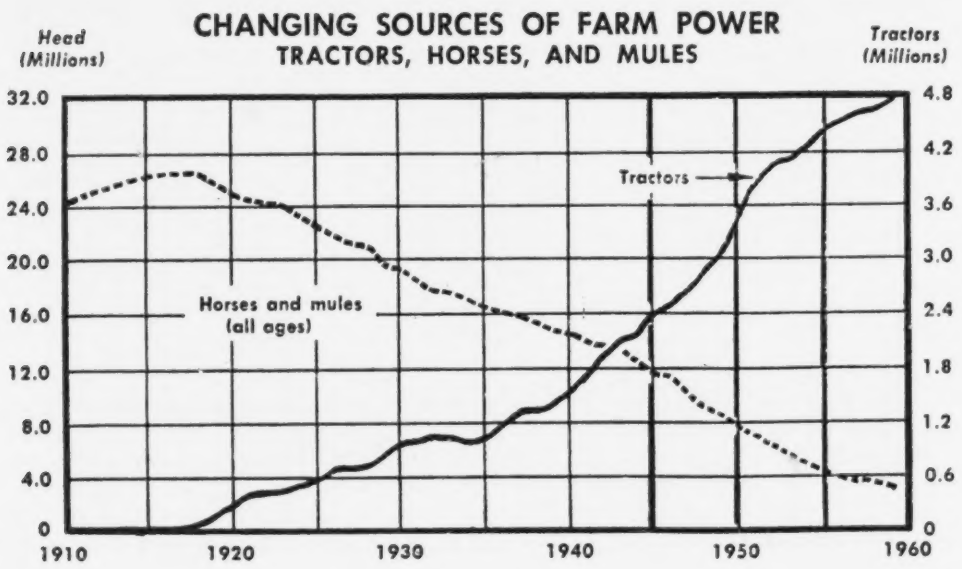
The sources of farm power have changed considerably during the twentieth century. A graph could be constructed to represent such a change by plotting the number of farm work animals (horses and mules) from 1910 to 1960 on graph paper. The line thus drawn can be compared with a similar one representing the number of tractors. The necessary figures (stated in round numbers) for comparison are as follows:

SOURCES OF FARM POWER *

Date	Horses and Mules	Tractors
1910	24,000,000	1,000
1915	26,000,000	25,000
1920	25,000,000	246,000
1925	23,000,000	549,000
1930	19,000,000	920,000
1935	16,600,000	1,048,000
1940	14,000,000	1,545,000
1945	12,000,000	2,354,000
1950	7,600,000	3,394,000
1955	4,300,000	4,345,000
1960	2,800,000	4,600,000

* *Historical Statistics of the United States.*

Directions: **On the graph form below, each vertical line represents one of the dates in the table. Start with 1910 at the left and end with 1960 at the**



From *Yearbook of Agriculture 1960*

right. Put these dates at the bottom. The horizontal lines represent varying amounts of farm power. Use the first vertical line at the left to represent millions of horses and mules. *Each* interval starting with zero at the bottom represents 4 million animals. The top line, therefore, would be 32 million head. Use the vertical line at the extreme right to represent millions of tractors. *Each* interval starting with zero at the bottom represents 0.6 of a million tractors. The top line, therefore, would be 4.8 million tractors.

The next step is to place a dot on each date line at the point which represents the number of animals used in that year. Use the scale on the left. Now, connect these dots with a broken line. Then place a dot on each date line at the point which represents the number of tractors used in that year. Use the scale on the right. Connect the dots with a solid line.[4]

Section V. Interpreting Tabular Data

Directions: **The table on page 54 is an example of a "table of loan and nonforfeiture values" usually printed in life insurance policies. Its purpose is to give the policy holder some choice in the advent of death, emergency, or non-payment of premiums.**

The face value of the policy for which the figures are given is $1000. After one full premium shall have been paid, then in case of death the face value of the policy will be paid to the beneficiary; in case of default of payments the policy holder may choose to end the policy and take the cash value or permit the policy to continue at its *face value* for the time stated. If the face value is for a greater amount than $1000, such value will be proportionately more.

Questions on Table A

($176.) 1. How much money could the policy holder borrow on the policy at the end of the fifteenth year?

(17) 2. If the policy holder wishes to maintain the face value of the policy and stopped payments at the end of the sixth year, for how many *years* (no days) would he have insurance?

(none) 3. How much extended insurance would there be if the policy holder fails to pay more than one premium?

---

[4] Section IV could be scored by counting as a correct response each point properly located on the graph as revealed by the connecting line drawn by students. It is the point on the date line which is important, and not the connecting line, which need not be drawn absolutely straight. The graph presented here has the line drawn to the proper points to show how a perfectly correct response would look. In administering this or a similar exercise to the students, the graph form would naturally be blank.

(2) 4. How many premiums must be paid before money can be borrowed on the policy?

(13) 5. How many premiums have been paid when the cash value is $147?

($1000.) 6. If the policy holder dies after the first premium has been paid, how much money would his estate receive?

($446.) 7. When the policy holder can borrow $200, how much paid-up insurance must he have in order to negotiate the loan?

($627.) 8. What is the largest sum of money that can be borrowed on the policy?

($239.) 9. If a young man takes out a policy when he is twenty-one years of age about how much paid-up insurance does he have at age 30?

(78) 10. If the policy holder fails to pay premiums after age 60 how old would he be when the policy ceased to exist as a contract?

Table A*

SEX AND ISSUE AGE (MALE—21)

End of Policy Year	Cash and Loan	Reduced Paid-up Insurance	Extended Insurance	
			Years	Days
1	—	—	—	—
2	$ 1	$ 4	0	140
3	13	39	5	35
4	26	75	10	96
5	38	108	14	93
6	51	141	17	114
7	65	176	19	257
8	78	207	21	95
9	92	239	22	198
10	106	269	23	179
11	120	298	24	68
12	133	323	24	209
13	147	350	24	334
14	162	377	25	78
15	176	401	25	111
16	190	424	25	113
17	204	446	25	88
18	218	466	25	40
19	233	488	24	363
20	248	509	24	299
Attained Age				
60	549	793	17	299
65	627	842	15	243

* Figures—courtesy of Z. J. Taylor, Special Agent, Prudential Insurance Company.

Section VI. Recognizing and Interpreting Trends Revealed by Statistical Data

Tables of statistical data should be attractive to read. Careful designing and planning will usually improve their appearance. A poorly designed table, no matter how potent its message, will not be read. Pupils should be encouraged to make tables. For this purpose much information in social-studies texts can be readily utilized. The problems involved in designing and planning a table will sharpen the skill of pupils so that they will develop a critical attitude towards those they see. A few simple suggestions will help both teacher and pupil. For easy reading the total of a column may be put at the top of the column. The use of pictorial titles is almost a guarantee that the tabulation will be understood. If the table of statistics is long, grouping the rows of figures into fives aids in the reading of the figures. In simple tables the figures of greatest magnitude are at the top and the rest are entered in descending order. The use of notes to clarify and explain headings should always be encouraged, and one of the notes should give the source or sources of the data tabulated. In short, the table should be self-explanatory and the data should be so classified that the place of each statistic in relation to all the others is readily seen.

Directions: **This is a test of the ability to draw conclusions from statistical data. In making your decisions *consider only the evidence given in the table and any logical trends which may be reasonably inferred from the data*, even though you may be acquainted with other evidence which would indicate definitely that a statement is true or false.**

Answer Symbols: **Use *numbers* only.**

1. **If the *evidence alone* is *sufficient* to make the statement *true*;**
2. **If the *evidence alone* is *sufficient* to indicate that the statement is probably *true*;**
3. **If the *evidence alone* is *not sufficient* to indicate any degree of *truth* or *falsity*;**
4. **If the *evidence alone* is *sufficient* to indicate the statement is probably *false*;**
5. **If the *evidence alone* is *sufficient* to make the statement *false* because it is contradicted by the data in the table.**

Questions on Table B

(1) 1. Producing cotton has always been more time-consuming work than producing wheat or corn.

(5) 2. The increase in the yield per acre has been greater for wheat than corn.

(1) 3. Over the years the preparation of the soil for corn and the tending of the crop is more time-consuming than the harvesting of corn.

(3) 4. Between 1800 and 1860 labor-saving machinery was used to produce wheat and corn.

(1) 5. Over the years the harvesting of cotton has been more time-consuming than the harvesting of wheat.
(3) 6. More machinery is needed in the twentieth century for cotton to prepare the soil and tend the crop than for either wheat or corn.
(5) 7. Less cotton is raised in the twentieth century than in the nineteenth century.
(2) 8. More machinery is probably used in the production of wheat, corn, and cotton since World War II than in the period prior to the Civil War.
(1) 9. Wheat farming was the first of the crops listed in the chart to show a radical reduction of man-hours of labor.
(2) 10. Cotton farming is probably less mechanized than either wheat or corn farming.
(1) 11. About five times as many man-hours of labor was needed to produce wheat in 1840 as was needed 100 years later.
(5) 12. The gain in farm labor productivity has been about 150 percent from the beginning of World War II.
(4) 13. Man-hours per acre and yield per acre are interrelated.
(3) 14. The relation between yield per acre and time for harvest depends on the extent of mechanization.
(5) 15. The biggest gain for labor efficiency over the years has been for corn rather than wheat.
(3) 16. The most time-consuming pre-harvest operation has been the tending of the crop—cultivating and hoeing.

Table B

MAN-HOURS USED TO PRODUCE SPECIFIED AMOUNTS OF WHEAT, CORN, AND COTTON: 1800 TO 1950 *

Item	1800	1840	1880	1900	1920	1940	1950
Wheat							
Man-Hours per Acre	56	35	20	15	12.0	7.5	4.6
Before Harvest	16	12	8	7	5.5	3.7	2.6
Harvest	40	23	12	8	6.5	3.8	2.0
Bushels per Acre	15	15	13.2	13.9	13.8	15.9	16.6
Man-Hours per 100 Bushels	373	233	152	108	87	47	28
Corn							
Man-Hours per Acre	86	69	46	38	32	25	15.2
Before Harvest	56	44	28	22	19	15	9.9
Harvest	30	25	18	16	13	10	5.3
Bushels per Acre	25	25	25.6	25.9	28.4	30.3	39.0
Man-Hours per 100 Bushels	344	276	180	147	113	83	39
Cotton							
Man-Hours per Acre	185	135	119	112	90	98	74
Before Harvest	135	90	67	62	55	46	33
Harvest	50	45	52	50	35	52	41
Pounds of Lint—Acre	147	147	179	191	160	245	283
Man-Hours per Bale†	601	439	318	280	269	191	126

* *Historical Statistics of the United States.*
† Bale of cotton: 500 pounds gross weight, 480 pounds net weight of lint.

Use the same symbols for interpreting the following questions as were used for Table B.

Questions on Table C

(1) 17. The total value of exports was less in 1720 than it was in 1760.
(3) 18. Smuggling was not a material factor during the years under consideration.
(5) 19. Every area except New York showed a steady gain over the entire period.
(2) 20. The value of exports from Georgia was less in 1720 than in 1770.
(2) 21. The value of exports from New England was less in 1685 than in 1760.
(4) 22. The total value of exports was probably less in 1780 than it was in 1750.
(3) 23. The decline in the value of exports from New England in 1760 caused the decline in the value of exports from New York in 1760.
(1) 24. There was a greater value of exports from the Southern colonies than from New England for 75 years.
(1) 25. There was a greater proportionate gain in the value of exports from the Carolinas between 1720 and 1740 than in any other colony or division.
(5) 26. A merchant's business in New York suffered because of the decline in the value of exports in 1740 and 1760.
(3) 27. The difference in the value of exports between New England and the Southern colonies in 1775 was probably due to a greater self-sufficiency in New England than in the agricultural South.
(2) 28. Georgia was probably better off economically in 1760 than in 1700.
(2) 29. Connecticut had less to export in 1760 than in 1740.
(3) 30. The repeal of English export duties in 1721 accounts for the gains in exports from all the colonies.
(3) 31. The value of furs exported from New York to England, 1700-1775, was greater than the value of cotton exported from the South.

Table C

VALUE OF EXPORTS TO ENGLAND BY AMERICAN COLONIES *
(Stated in pounds sterling)

Division or Colony	1700	1720	1740	1760	1775
Total	395,021	468,188	718,416	761,000	1,920,950
New England	41,486	49,206	72,389	37,802	116,588
New York	17,567	16,836	21,498	21,125	187,018
Pennsylvania	4,608	7,928	15,048	22,754	175,962
Virginia and Maryland	317,302	331,482	341,997	504,451	758,356
Carolina	14,058	62,736	266,560	162,769	579,549
Georgia	—	—	924	12,198	103,477

* *Historical Statistics of the United States.*

Section VII. Identifying Central Issue

The first step in evaluating written or oral information is to locate the central issue. If the student is unable to do this, the process of critical thinking is stymied. Obviously he cannot go on to the next step, evaluating data, unless he knows what this data is supposed to prove.

Traditionally teachers have confined the search for the central issue to printed materials. Usually the teacher helps pupils develop this skill by having them start with short passages and gradually progress to longer ones. He usually asks, "What is the author trying to tell us?"

The viewing of TV commercials offers another opportunity to practice this skill. Commercials are usually short, with a conspicuous lack of evidence to prove their claims. Initially students should be queried as to the main claim of the commercial. Then they might be asked, for example, "Is it true that a certain toothpaste will insure popularity? What evidence do the sponsors offer to support this contention? Is it adequate?" Applying the critical thinking processes to the medium of TV seems especially appropriate, since such a large portion of a youngster's time is devoted to this pastime.

The following examples have been selected from commonly used secondary texts.

Directions: **Read the following paragraph: Preface to *Poor Richard's Almanack*, 1733.**

Courteous Reader,

I might in this place attempt to gain thy Favour, by declaring that I write Almanacks with no other View than that of the publick Good, but in this I should not be sincere; and men are nowadays too wise to be deceiv'd by Pretences how specious [1] soever. The plain Truth of the Matter is, I am excessive poor, and my Wife, good Woman, is, I tell her, excessive proud; she cannot bear, she says, to sit spinning in her Shift of Tow,[2] while I do nothing but gaze at the stars; and has threatened more than once to burn all my Books and Rattling Traps (as she calls my Instruments) if I do not make some profitable Use of them for the Good of my Family. The Printer has offer'd me some considerable share of the Profits, and I have thus begun to comply with my Dame's Desire.

Item: Choose the main idea of the "Preface."

a. Franklin's purpose in writing the Almanack was to please his wife.
*b. Franklin's purpose in writing the Almanack was to make a profit.
c. Franklin's purpose in writing the Almanack was to please the public.

Source: Kownslar, Allan and Frizzle, Donald, *Discovering American History*, New York, Holt, Rinehart and Winston. Inc., 1967. p. 75.

[1] "Specious" means believable on the surface.
[2] A "shift of tow" is a straight, loose undergarment made of coarse linen cloth.

Directions: **Read the following paragraph:**

(Women) had more freedom of action and more chance to take part in life outside the home than in England. Colonial laws gave them more protection. In England, for instance, the common law allowed a husband to beat his wife with "any reasonable instrument"; according to Massachusetts law, he could beat her only in self-defense. Widespread home manufacturing allowed wives as well as their husbands to learn trades. In the south the mistress of a plantation was a full partner in directing the working force. When seafaring New England husbands left their wives, sometimes for years at a time, women were successful as merchants or storekeepers. Still other women were printers, newspaper publishers, druggists, and doctors.

Item: Choose the main idea from the above paragraph.

*a Colonial women experienced greater freedom of action than English women.
b. All colonial women worked outside the home.
c. Colonial women were better educated than English women.

Source: Bragdon, Henry and McCutchen, Samuel, *History of a Free People,* New York, Collier-MacMillan Limited. 1968, p. 19.

Directions: **Read the paragraph below:**

In a recent bulletin of the Superintendent of the Census for 1890 appear these significant words: "Up to and including 1880 the country had a frontier of settlement, but at present the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line. In the discussion of its extent, its westward movement, etc., it cannot, therefore, any longer have a place in the census reports." This brief official statement marks the closing of a great historical movement. Up to our own day American history has been in a large degree the history of the colonization of the Great West. The existence of an area of free land, its continuous recession, and the advance of American settlement westward explain American development.

Item: Choose the main idea that comes from the paragraph.

a. The census will now be more difficult to administer.
b. Land values will rise because of the scarcity of free land.
*c. America's greatness is partially due to the existence of a frontier.

Source: Discovering American History, Holt, Rinehart and Winston. "Frederick Jackson Turner, 1893," p. 540.

Directions: **Read the following paragraph:**

Chapter 16 describes the growth of industry in the North in the first half of the nineteenth century. The first labor unions were organized, and the leaders of important reforms made their appearance. Slavery spread in the

South, and abolitionists in both the North and the South opposed keeping human beings in bonds. Immigration and the building of railroads in the North helped sharpen differences between northerners and southerners which had already developed.

Item: Choose the main idea that comes from the paragraph:

a. Chapter 16 deals mainly with the opposition to slavery by the Abolitionists.
*b. Chapter 16 deals with differences between living in the North and South.
c. Chapter 16 explains how immigration led to the development of labor unions.

Source: The Free and the Brave, Rand McNally and Co., pp. 344-364.

Section VIII. Distinguishing between Statements of Fact and Statements of Opinion

A worthwhile distinction which teachers should endeavor to make clear is the difference between facts and opinions or between facts and an author's interpretations of the facts. It is beyond debate that Franklin D. Roosevelt was President of the United States during World War II, but one could argue indefinitely whether or not Roosevelt was our greatest war President. The distinction between fact and opinion is always worth making because pupils will thus learn to base their conclusions or interpretations on facts. After discovering the facts relating to a series of events, pupils should be encouraged to interpret them and to form opinions about them. The following sentences illustrate the distinction between fact and opinion:

1. The atomic bomb was used near the end of World War II.
2. The cause of the friction between nations after World War II was the atomic bomb.

These two statements seem to be factual but the second is an interpretation rather than a fact. The distinction between fact and opinion should be made whenever an opportunity presents itself because those who cannot develop that ability readily become victimized by propaganda. There is another reason for making the distinction. The student will see why the social sciences are more than a collection of dry-as-dust facts. He will understand why it is necessary for him to organize facts for purposes of new interpretations. He will thus be encouraged to regroup facts to form new relationships and to yield new interpretations. The teacher who stimulates his pupils constantly to make distinctions between facts and opinions thus performs a worthwhile function in developing critical ability.

Directions: **In the list which follows, some of the sentences are statements of *fact*, and others are statements of *opinion*. Indicate to which class you**

think each statement belongs by placing the proper letter in the space provided for it. *Do not* try to decide if each statement is true or false but only whether it should be classified as a statement of *fact* or of *opinion*.

F—Fact
O—Opinion

(O) 1. The Democratic party has done more for this country than the Republican party has.
(F) 2. In 1939 there were two World's Fairs held in the United States.
(F) 3. Alaska is northwest of Oregon.
(F) 4. Scientific research often results in the production of new products.
(O) 5. No war has ever accomplished any good for the world.
(O) 6. A high tariff increases the prosperity of the country.
(O) 7. Only his defeat at the Battle of Waterloo prevented Napoleon from making himself master of Europe.
(O) 8. All communists in the United States are traitors to this country.
(O) 9. Dictators are never happy men.
(F) 10. The schools of today offer a broader training than did the schools of fifty years ago.
(O) 11. Strikes are not justified because the public often suffers.
(F) 12. Julius Caesar wrote a book about his wars in Gaul.
(O) 13. Without the Magna Carta, or Great Charter, democratic government would never have developed.
(O) 14. Congress would be more efficient if the term in office of Congressmen were lengthened.
(F) 15. Some voters would like to see the terms in office of Congressmen lengthened.
(F) 16. A high degree of artistic skill was developed in ancient Greece.
(O) 17. The Indians are better off today than they were before the white men came to America.
(F) 18. The border between the United States and Canada is not fortified.
(O) 19. Control over Little America in the Antarctic region is necessary for the future security of the United States.
(F) 20. Virginia was one of the original thirteen colonies.
(O) 21. The civilization of the ancient Greeks was in many ways superior to that of modern times.
(O) 22. An excellent kind of education for boys is military training.
(F) 23. Institutions are organized and socially sanctioned sets of behavior patterns.
(O) 24. The contribution of Negroes to our civilization is almost negligible.
(O) 25. The best medical care should be provided for rich and poor alike.
(O) 26. Opportunities which individuals have should be determined more by their social and economic position than by their ability.
(O) 27. War is inevitable under any kind of social system.
(O) 28. Unemployment insurance is undesirable.
(O) 29. White people are superior in most respects to other people.
(O) 30. A nation is justified in going to war only when attacked.
(F) 31. It was President George Washington's opinion that the United States should not have alliances with European countries.
(F) 32. Our world is not the same world of a hundred or even of fifty years ago.

(F) 33. It can be shown that crises often bring out the best in people.
(O) 34. Why do people assume war would bring out the worst in everyone?
(F) 35. Life was horrible for the people of Europe when the black plague killed one-fourth of the population.
(F) 36. Anyone who can read can conclude that the experts can't agree on the best way to survive a nuclear war.
(O) 37. We should listen to the scientists who make atomic bombs, because they are the only ones who really know what the effects will be.
(O) 38. "Free trade," "disarmament," "the United Nations," are communist-oriented slogans.
(O) 39. The internal threat of communism within the United States is vastly more imminent than the external threat.
(O) 40. The allies of the United States are weak and unimportant and the few neutral countries are hostile to the United States.
(O) 41. A strong military establishment is needed in the United States because internal subversion will make us fall like a piece of "overripe fruit."
(F) 42. The present constitution of the Soviet Union was developed in 1936.
(O) 43. Welfare legislation leads to socialism, which leads to communism.
(O) 44. The intellectual student is susceptible to the appeals of communism by reason of his educational conditioning.
(O) 45. Communism has never sold itself on its merits; nor has it ever been adopted by a free vote of a free people.
(O) 46. The United Nations Charter does not stand for freedom as Americans know freedom.
(O) 47. The genius of the American public school has been its closeness to the people.
(O) 48. Capitalism is at its ebb, heading for collapse.

Section IX. Discriminating between Statements of Fact and Statements of Motive

It is helpful in considering material in the social-studies field to be able to determine which of a series of statements may be verified as factual and which may not be so verified, but are instead statements indicating purpose or motive. Such an ability is a beginning of higher forms of critical skills, and may therefore very properly receive emphasis in the instructional program.

It is difficult to avoid "determiners" in building items of this type. The phrase "in order to" would of course be a complete giveaway if used. Since even the word "to" provides somewhat of a clue, the word "to" has been used in a number of the options, although not to convey the idea of purpose.

Directions: **Place the number of the correct answer in the space provided.**

(1) 1. Which one of the following is a statement of motive? (1) Japan invaded China in 1932 to gain more territory, (2) China proved very difficult for Japan to penetrate after the invasion, (3) The United States Supreme

Court has not always consisted of nine justices, (4) After the Washington Disarmament Conference of 1922, the United States Navy was not built up to full treaty strength, (5) Marco Polo traveled through China to the court of Kublai Khan.

(1) 2. Which one of the following is a statement of motive? (1) Roman highways were carefully planned for rapid transportation of soldiers, (2) The cooperative movement is receiving much attention in the United States, (3) The protection of England depends largely on her fleet, (4) Agriculture is one of the main industries of this country, (5) The first English settlers in the New World faced many hardships.

(2) 3. Which one of the following is a statement of motive? (1) Early maps of the New World were usually inaccurate, (2) In 1922 the United States sponsored a general conference to consider disarmament, (3) Several old-age pension plans originated in California, (4) Hitler broke the provisions of the Treaty of Versailles, (5) The War of 1914-1918 was called the "War to End War."

(4) 4. Which one of the following is a statement of motive? (1) Italy is exposed to attack from the sea, (2) Many American Presidents have been military men, (3) In 1849 many goldseekers flocked to California, (4) The Panama Canal was constructed to shorten sea voyages, (5) Modern bombers are adapted to a wide cruising range.

(5) 5. Which of the following is a statement of motive? (1) Industries are strictly regulated in dictator nations, (2) Women's suffrage was made effective by an amendment to the Constitution, (3) Much of northern Mexico is a desert region, (4) Alaskan bases are necessary to the defense of the United States, (5) In 1915 the Allies borrowed money from the United States to carry on their war.

(2) 6. Which of the following is a statement of motive? (1) India had long worked to gain the independence from Great Britain which was granted in 1947, (2) Many people in India supported England in World War II to improve India's chances for independence, (3) Many Indians had received training in government from the British before independence, (4) The independence movement resulted in breaking the old area of India into two countries, India and Pakistan.

(4) 7. Which of the following is a statement of motive? (1) Gambling is made legal in some states, (2) Many more people lose from gambling than win from it, (3) Some money realized from government lotteries is sometimes used for useful purposes, (4) Some people favor government lotteries and other forms of gambling because of the money the state can get, (5) Other people believe that there is no justification to make gambling legal.

(2) 8. Which of the following is a statement of motive? (1) The hockey team of the Soviet Union had difficulty in adjusting to the warmth of American arenas, (2) The primary activity of Moscow's cultural delegates while in the United States was to demonstrate their skill in aesthetics, (3) American athletic programs are not organized by government to compete with other nations, (4) The Russian ballet has received much attendance and great interest in the United States, (5) Most of the Soviet Union's cultural activity in the United States has been confined to music, dancing, and athletics.

(1) 9. Which of the following is a statement of motive? (1) The Soviet Union torpedoed the summit conference because they had no proposals for solving international problems, (2) Switzerland has a healthful climate suitable for international conferences, (3) Rival Argentine military factions moved close to civil war in Buenos Aires, (4) British and Common Market negotiators tried to break their trade policy deadlock, (5) Algeria won independence from France but their leaders continued to feud.

(3) 10. Which of the following is a statement of motive? (1) The President is Commander-in-Chief of the Armed Forces of the United States, (2) The President requested authorization from Congress to call up 150,000 reserves, (3) The President can activate the National Guard to allay fears of critical international situations, (4) The United Nations tries to negotiate cease fire agreements between warring nations, (5) The President flew to Mexico City on a two-day good-will trip.

Section X. Determining Difficulty of Proof

On all sides we are constantly bombarded with statements and generalizations about social relationships—in newspaper columns, magazines, radio and television programs, political speeches, advertisements, lectures, and ordinary discussions and conversations about social, political, and economic problems. Some of the statements made could be verified and some could not. It is, of course, of considerable help in trying to think clearly about the problems discussed if one is able to make even the elementary distinction between statements for which evidence may be assembled and other statements which are not verifiable, or which are so controversial that they could not be proved conclusively.

The foundation of proof is possibility: a thing or event that may happen or did happen. In order to establish possibility, sufficient trustworthy evidence must exist to prove it. Assuming that all the items in the following exercises are possible, we should consider, in establishing degrees of difficulty in proof, trustworthy evidence and how it may be obtained. Option 5 of item number 1, for example, may be true but its proof lies in the future and for all practicable purposes is therefore unattainable. In exercise 4 the difficulties of devising ways of proving option 4 are almost insurmountable, whereas for each of the other options of item 4 much material is readily available.

Teachers should constantly point out to their pupils that social-studies texts and other materials of the social sciences often contain statements of questionable accuracy and others of a debatable nature. Conscientious writers usually indicate which sections of their writings are based on conjecture and make no claim for the authenticity of such sections. Other writers do not, and pupils may lose interest and confidence in history when they discover some elements of error in what they had believed to be true.

Directions: **In each of the following questions there is one of the five items which would be more difficult to prove than the other four. Place the number of that option in the space provided.**

(5) 1. Which of the following would be *most* difficult to prove true or false? (1) Many medieval manuscripts were written in Latin, (2) The area of Alaska is greater than that of Texas, (3) Cleveland held two terms in office as President of the United States, (4) The "elastic clause" of the federal Constitution has provoked much controversy, (5) The Russian economic system is doomed to failure.

(2) 2. Which of the following would be *most* difficult to prove true or false? (1) The federal budget did not balance in 1937, (2) The Treaty of Versailles caused most of the trouble in Europe between 1920 and 1939, (3) Georgia is well suited for cotton-raising, (4) Cuba's standing army is smaller than China's, (5) The Reconstruction period after the Civil War worked great hardship on the South.

(1) 3. Which of the following would be *most* difficult to prove true or false? (1) Overexpansion of the railroads caused the panic of 1857, (2) The Union army was larger than the Confederate army in the Civil War, (3) Woodrow Wilson was once president of Princeton University, (4) Many Americans do not like anti-Semitism, (5) Abraham Lincoln was born in 1809.

(4) 4. Which of the following would be *most* difficult to prove true or false? (1) Washington was unpopular with some groups by the end of his second administration, (2) Jefferson was born in Virginia, (3) Theodore Roosevelt was the youngest President to take office, (4) Soil erosion is the greatest problem of the Middle West, (5) California once called itself the "Bear Flag Republic."

(5) 5. Which of the following would be *most* difficult to prove true or false? (1) The government of Mexico is a republic, (2) American schools are superior to Mexican schools in physical equipment, (3) The United States has a naval base in Hawaii, (4) South American trade is important to the United States, (5) The principles of the Monroe Doctrine are out-of-date.

(5) 6. Which of the following would be *most* difficult to prove true or false? (1) Some Arab countries have had Soviet military advisers, (2) A clause of the Treaty of Versailles laid the blame for starting World War I on Germany, (3) Some Democrats did not approve of Franklin D. Roosevelt's New Deal policies. (4) The Marshall Plan to aid Europe after World War II did not offer to include Poland, (5) The "cold war" beginning after World War II was deliberately planned by Russia.

(4) 7. Which of the following would be *most* difficult to prove true or false? (1) The Empire State Building is taller than the Eiffel Tower, (2) The thirteen original colonies had many disagreements among themselves, (3) The 1938 treaty with Canada lowered the price of woolen goods in the United States, (4) Democracy is a better form of government than fascism, (5) The standard of living of the wage-earning class is higher in the United States than in most other countries.

(2) 8. Which of the following would be *most* difficult to prove true or false? (1) There was little organized education in Europe during the Middle Ages, (2) Greece contributed more to civilization than Egypt did, (3) The invention of the steam engine influenced the way people lived, (4) The Battle of New Orleans in 1815 was entirely unnecessary to making the peace treaty, (5) The climate of southern Arizona is beneficial to persons suffering from lung trouble.

(4) 9. Which of the following would be *most* difficult to prove true or false? (1) Nearly every large city has a slum district, (2) Race and nationality are sometimes confused, (3) Modern European languages contain words from many sources, (4) We have always had war, but it is not inevitable, (5) For many centuries women in China were denied the right to receive an education.

(2) 10. Which of the following would be *most* difficult to prove true or false? (1) Labor strikes sometimes occur during good times, (2) Control by the federal government hampers the development of business, (3) Savings accounts in national banks are automatically insured, (4) The Post Office Department usually operates on a deficit, (5) The tourist industry in Europe increased markedly after World War II.

(3) 11. Which of the following would be *most* difficult to prove true or false? (1) Many plans have been proposed in past times to provide for some sort of international law or government, (2) The United Nations owns only a part of the property in New York City on which its buildings are located, (3) The adding of new members to the United Nations, such as new countries in Africa, will weaken the influence there of the United States, (4) The United Nations has been unable to settle some cases of quarrels between countries, (5) Difficulties in the Congo caused much trouble for the United Nations.

(5) 12. Which of the following would be *most* difficult to prove true or false? (1) The agricultural production in Soviet countries has usually not been up to the expectations of the government, (2) At various times the Soviet government has taken steps to control food prices, (3) Some discontent with agricultural production has been voiced in Russia, (4) The Soviet government has tried several ways of stimulating improved agricultural production, (5) The failures of Soviet agriculture are a result of the communist collective farming methods.

(5) 13. Which of the following would be *most* difficult to prove true or false? (1) A jet plane crosses the United States from east to west in about five hours, (2) Some 500,000 American Indians dwell in the United States, (3) Jacqueline Cochran was the first woman to break the sound barrier, (4) President Wilson appointed the first National Research Council in 1916, (5) The Soviets have a global rocket which cannot be destroyed by an anti-rocket.

(4) 14. Which of the following would be *most* difficult to prove true or false? (1) Paine's pamphlet *Common Sense* stated arguments for American independence, (2) Thomas Jefferson was on the committee to form the Declaration of Independence, (3) July 4th is known as Independence Day in the United States, (4) America became free because of men like George Washington.

(1) 15. Which of the following would be *most* difficult to prove true or false? (1) Benedict Arnold had always wanted to undermine the American efforts, (2) One of the problems the soldiers faced in 1777 was lack of food, (3) Franklin was a diplomat as well as an inventor, (4) The Spanish king encouraged the independence of the English colonies.

(2) 16. Which of the following would be *most* difficult to prove true or false? (1) The Hapsburg family ruled in Austria-Hungary, (2) The assassination of the Austrian Crown Prince was the cause of World War I, (3) Germany declared war on Russia, (4) Great Britain sent troops to Belgium's aid.

(1) 17. Which of the following would be *most* difficult to prove true or false? (1) Clemenceau had a greater grasp of the war aims than Lloyd George, (2) The war on the ground was fought primarily as one of trench warfare, (3) Russia signed a separate peace treaty with Germany, (4) There were 124 Americans drowned among the eleven hundred casualties from the *Lusitania*.

(4) 18. Which of the following would be *most* difficult to prove true or false? (1) The U. S. did not sign the Versailles Treaty, (2) President Wilson wanted a peace without victory, (3) Congress and President Wilson did not agree on the League of Nations, (4) If the U. S. had joined the League, World War II could have been avoided.

(1) 19. Which of the following would be *most* difficult to prove true or false? (1) Business would be better without labor unions, (2) Regular air mail service between the East and West coasts started in 1924, (3) Calvin Coolidge was elected president in 1924, (4) Florida experienced a land boom in 1925 and the value of land rose sharply.

(2) 20. Which of the following would be *most* difficult to prove true or false? (1) The median income for the United States in 1955 was $3,926 for employed white males, (2) Welfare costs cause inflation, (3) The median income for non-whites in the United States is lower than that for whites, (4) There is a difference in life expectancy between whites and non-whites.

Section XI. Exercise on Open-Mindedness

This is the only section of the Bulletin where any sort of items are used which might be called "trick questions." Yet these are of that nature only because the same type of item may be used only one time with the same pupils, since the method of scoring, once revealed, gives a clue which would enable pupils to avoid making improper responses thereafter.

The assumption underlying this type of item is that only those pupils who have what may be termed a closed mind would subscribe to completely unqualified generalizations regarding social relationships. In the following Section, item 2, for example, a number of pupils will underscore *All,* in the belief that the advancements of science have improved every phase of modern living. Some who have heard about romanticized concepts of the "good old days" may even be tempted to underscore *No* in this particular item. There might indeed be considerable difficulty in determining which

of three middle terms, *Most, Many,* or *Some,* would be most applicable in any given case, but there would be agreement that none of the extremes of *All* or *No* would be acceptable for the items given.

Therefore in scoring items of this type no attention is paid to the underscoring of any of the three middle words. The underscoring of either of the extremes, *All* or *No,* is counted as an error. This technique was used in an extensive study by Watson (86) to measure fair-mindedness.

Directions: **Underscore one of the first five words in each of the following statements which you think makes it the truest statement.**

Examples: All, Most, Many, Some, No, dogs are larger than cats.
All, Most, Many, Some, No, persons on earth have taken a trip to the stars and back.

1. All, Most, Many, Some, No, Americans are better people than those of other countries.
2. All, Most, Many, Some, No, modern ways of doing things are better than those of the past.
3. All, Most, Many, Some, No, people are happier today than the people living in past periods.
4. All, Most, Many, Some, No, Americans are more highly civilized than people who have lived in past ages.
5. All, Most, Many, Some, No, ways of living today are just the same as they were in olden times.
6. All, Most, Many, Some, No, Japanese are very polite people.
7. All, Most, Many, Some, No, honest and kind officials have carried out the duties of their office successfully.
8. All, Most, Many, Some, No, communists are violent people who want to destroy the government of the United States.
9. All, Most, Many, Some, No, poor people are better off today than they have been in past times.
10. All, Most, Many, Some, No, problems that society has to face today are the same as those of earlier times.
11. All, Most, Many, Some, No, democratic governments are better than any other kind.
12. All, Most, Many, Some, No, reasons might be sufficient for us to change the form of government of the United States.
13. All, Most, Many, Some, No, American soldiers are bigger and stronger than most of the soldiers of other countries.
14. All, Most, Many, Some, No, foreigners want to come to the United States because they can make more money here.
15. All, Most, Many, Some, No, things that we learn we learn only in school.
16. All, Most, Many, Some, No, taxes are always much too high.
17. All, Most, Many, Some, No, poor people work harder than rich people.

18. All, Most, Many, Some, No, Democrats are more patriotic than Republicans.
19. All, Most, Many, Some, No, labor unions are a great help to the laborers.
20. All, Most, Many, Some, No, people who live out in the country are better than those who live in the city.
21. All, Most, Many, Some, No, people who live in the city consider that those who live in the country are inferior.
22. All, Most, Many, Some, No, lawyers try to get around the laws so that they can make more money.
23. All, Most, Many, Some, No, dishonest men are very inefficient if they are elected to a public office.
24. All, Most, Many, Some, No, ways that people did things in the past are just the same as we do them today.
25. All, Most, Many, Some, No, ways that people did things in the past were better than the way we do them today.
26. All, Most, Many, Some, No, people who want to change the government of the United States are communists.
27. All, Most, Many, Some, No, poor people who lived in past times were better off than poor people today.
28. All, Most, Many, Some, No, problems that society had to face in the past are the same as those of today.
29. All, Most, Many, Some, No, wars in which the United States has taken part have been to promote selfish interests.
30. All, Most, Many, Some, No, people who live in slum areas are naturally careless and untidy.
31. All, Most, Many, Some, No, comic books are harmful in their effects on young children.
32. All, Most, Many, Some, No, immigrants who have come to the United States from southern Europe make less desirable citizens than those who have come from northern Europe.
33. All, Most, Many, Some, No, polls of public opinion are unreliable in predicting outcomes of elections.
34. All, Most, Many, Some, No, cooperative industries, or "co-ops" are leading this country toward socialism.
35. All, Most, Many, Some, No, people who oppose testing of nuclear bombs by U.S. are loyal Americans.
36. All, Most, Many, Some, No, people who oppose federal aid to education are concerned with the welfare of the schools.
37. All, Most, Many, Some, No, critics of the United Nations are really trying to promote peace.
38. All, Most, Many, Some, No, people who want the United States to join the European "common market" would like to see capitalism changed.
39. All, Most, Many, Some, No, governments of Central and South American countries are subject to frequent revolutions.

40. All, Most, Many, Some, No, methods used to lessen communist influence in Vietnam are justifiable.
41. All, Most, Many, Some, No, Americans have some kind of insurance against old age and unemployment.
42. All, Most, Many, Some, No, colleges admit students on the basis of their high school records.
43. All, Most, Many, Some, No, movies are now made by independent producers.
44. All, Most, Many, Some, No, Americans spend money freely.
45. All, Most, Many, Some, No, Americans go to the movies, listen to the radio, and watch television.
46. All, Most, Many, Some, No, American youth hold part-time jobs after school hours.
47. All, Most, Many, Some, No, Negroes have great musical ability.
48. All, Most, Many, Some, No, inventions are useful in the home.
49. All, Most, Many, Some, No, American workers are paid a decent living wage.
50. All, Most, Many, Some, No, alien ideas in America defeat national purposes.
51. All, Most, Many, Some, No, vital decisions in democracy are beyond the control of the electorate.
52. All, Most, Many, Some, No, "conflicts" have certain positive functions in society.
53. All, Most, Many, Some, No, alien ideas should be kept out of America.
54. All, Most, Many, Some, No, foreigners make undesirable American citizens.
55. All, Most, Many, Some, No, able-bodied men should be required to take military training.
56. All, Most, Many, Some, No, men are stimulated to their best efforts by the profit motive.
57. All, Most, Many, Some, No, people are intelligent enough to make wise decisions on important social issues.
58. All, Most, Many, Some, No, groups and individuals should be given complete freedom of speech regardless of radical views.
59. All, Most, Many, Some, No, law and police work should be male monopolies.

Section XII. Recognizing Biased Statements

Nearly everywhere and almost all the time all of us are confronted with statements which are exaggerated or twisted or biased because of the emotional attitude of the person who makes them. Sometimes we ourselves make statements which are more the result of our emotional complexes than of our reasoning. Sometimes emotionally toned statements are easy to detect and sometimes they are so subtle that it is hard to identify them as such.

In this section the attempt has been made to gather a series of statements on the same general topic, some of which reveal a strong emotional bias on the part of the writer, and others of which indicate that the writer was attempting to be reasonably fair and objective in making his observation. Practice in distinguishing between the biased and the more thoughtful statements will provide opportunity to stimulate interest and growth in critical skills.

Directions: **The following statements have been clipped from the section of representative newspapers entitled "Letters to the Editor." Go through the list and if in your judgment the statement is based on emotion or prejudice indicate the same by placing the letter E (for "emotion") opposite the number of the statement. On the other hand, if the statement seems to you to be based on fact and if it appears that its author was not emotionally biased, indicate the same by placing the letter T (for "thought") opposite the number of the statement.**

(T) 1. The irony of the growing appeal of conservatism and repression in the quest for law and order is that conservative societies have historically been the breeding ground for violent revolution.

(E) 2. Most of the people on relief are shiftless, lazy, and unwilling to work even if they have the chance.

(E) 3. One lesson of history is clear, "Don't trust a Communist."

(T) 4. America has always prided itself as being a land of opportunity and a haven for refugees.

(T) 5. Is it a mark of a great country to spend eight times as much on "defense" as it does on social welfare?

(E) 6. Everyone who works for a living is a slave to our Federal Reserve System, which controls our supply of money.

(T) 7. No nation can now provide true welfare for its people without continuous cooperation with other nations.

(E) 8. This country has never yet lost a war, and so we should not be scared of what the Russians may do.

(T) 9. The United Nations is reaching a crucial point in its development.

(E) 10. The real trouble with the United Nations is that its policies may be controlled by representatives of a lot of new countries who have no political experience or wisdom.

(T) 11. I wonder if the starving Blacks and Chicanos in our ghetto area would agree with your article, "Pollution Is America's Greatest Problem"?

(E) 12. Patriots can do much to awaken other Americans to the dangers facing the United States.

(E) 13. Government expenditures are a powerful fuel for the fires of inflation.

(T) 14. Those who conspire against our freedom count on the apathy of the American people.

(E) 15. Ho Hum! The Educational Establishment is making its annual plea — raises for the starving teachers.

(E) 16. Government is loaded with petty dictators in every bureau.

(T) 17. We cannot blame foreigners for the fact that we do not know how to adjust our economic machinery in such a way as to eliminate poverty and unemployment.

(T) 18. How can young people feel we understand them when we judge them more on the length of their hair than on the caliber of their contributions?

(T) 19. The war in Vietnam may continue for another decade, but the real question is can we as a nation with all our internal strife continue that long?

(E) 20. Hippies preach "peace," but their real message is the peace pipe — filled with "pot."

Section XIII. Drawing Inferences

In understanding the significance of spoken or written statements it is frequently necessary to be able to grasp implications or inferences which may not be stated directly. Thus the whole matter of grasping the *meaning* of statements beyond the actual facts presented is a very important skill or ability in considering material in the field of the social sciences, as well as in other fields. This process is closely akin to general reasoning processes followed in the study of logic, but, of course, has special applications to learning in the social studies.

It is important for pupils to learn the limitations of a passage as well as the inferences which may properly be drawn from it. For that reason, several of the numbered statements below go beyond the information provided in the passage to the extent that they are not warranted as inferences. Practice with exercises of this type will aid in developing in pupils the ability to draw conclusions or recognize correct inferences and also to recognize statements which are unwarranted as inferences from data provided.

Inference: "A truth or proposition drawn from another which is admitted or supposed to be true; a conclusion; a deduction" (unabridged dictionary).

Directions: **Assuming that the information below is true, it is possible to establish other facts using the ones in this paragraph as a basis for reasoning. This is called drawing inferences. There is, of course, a limit to the number or kinds of facts which may be properly inferred from any statement.**

By writing the proper symbol in the space provided, indicate that a statement is TRUE, if it may be properly inferred from the information given in the paragraph. Indicate that it is UNTRUE, if the information given in the paragraph implies that it is false. Indicate that NO INFERENCE can be drawn if the statement cannot be inferred one way or the other. Use only the information given in the paragraph as a basis for your responses. Do the same for paragraphs B and C.

Use the following symbols in writing your answers:

T—if the statement may be inferred as TRUE
F—if the statement may be inferred as UNTRUE
N—if no inference can be drawn about it from the paragraph

Paragraph A

By the close of the thirteenth century there were several famous universities established in Europe, though of course they were very different from modern ones. One of the earliest to be founded was one of the most widely known. This was the University of Bologna, where students from all countries came who wished to have the best training in studying Roman Law. Students especially interested in philosophy and theology went to the University of Paris. Those who wished to study medicine went to the Universities of Montpelier or Salerno.

Questions on Paragraph A

(T) 1. There were lawsuits between people occasionally in those days.
(N) 2. The professors were poorly paid.
(F) 3. In the Middle Ages people were not interested in getting an education.
(T) 4. There were books in Europe at that time.
(N) 5. Most of the teaching in these medieval universities was very poor.
(N) 6. There was no place where students could go to study.
(F) 7. There were no doctors in Europe at this time.
(F) 8. There was no way to travel during the Middle Ages.
(T) 9. If a student wanted to be a priest, he would probably attend the University of Paris.
(N) 10. There were no universities in Europe before the thirteenth century.
(N) 11. There was only one language in Europe at this time.

Paragraph B

The list of necessities for the poor free laborer in ancient Rome was very small. He needed about fifteen bushels of wheat every year. About the only meat he had to eat was that which the priests gave away after a sacrifice on holidays. He needed about a penny's worth of oil and another penny's worth of wine each day; his small daily portion of vegetables cost this much again. A pound of cheese cost relatively more, but would suffice for several days. These foods constituted the articles of his usual menu. The wool for the two tunics he needed each year cost about $1. Half this much would pay for a pair of sandals which he seldom wore. The state supplied amusements on holidays free of charge and also supported the free public baths, where friends could gather. If he was out of work the state would also supply him with grain. Therefore it was possible for the poor freeman to live and also to have a wife if his wife would spin and weave. (Abridged from T. Frank, *History of Rome,* 1923, p. 389-390.)

Questions on Paragraph B

(T) 12. Even the laboring class had some recreation.
(F) 13. The state was not concerned with the condition of the poor people.
(T) 14. The living conditions of the Roman laborers were very poor.
(T) 15. Food and clothing were quite cheap in Rome in comparison with modern times.

(N) 16. The laborers did some of their work at home, since the Romans had no factories.
(F) 17. Most laborers were so poor that they could not get married.
(N) 18. Some of the rich Romans were cruel to their slaves.
(N) 19. The state was opposed to the organization of workers into *collegia*, or guilds.
(T) 20. There was a relief problem even in the days of ancient Rome.
(F) 21. The Romans ate mostly cheese and vegetables, since they did not like meat.
(T) 22. A laborer's wife often made his clothing for him.
(T) 23. Some priests were interested in the welfare of the poor.
(F) 24. The Romans did not have a well-organized government.
(N) 25. The living conditions of the slaves were better than those of the free laborers.

Paragraph C

The correct marriage among the Veddas of Ceylon is for a man to marry his father's sister's daughter. The children of two brothers or of two sisters cannot marry, since such a marriage would be considered very improper. When seeking a bride, the man goes to his future father-in-law with a present of dried deer flesh, grain, honey, or yams tied to his unstrung bow. The marriage ceremony is very simple but appears to be absolutely binding, since cases of divorce or separation are almost entirely unknown. The women are jealously guarded by the men, who do not allow traders or other strangers to see them. (Abridged from C. G. and B. Z. Seligmann, *The Veddas,* 1911, p. 88 and 96.)

Questions on Paragraph C

(T) 26. Family or kinship ties are very strong among the Veddas.
(T) 27. The force of custom is respected by these people.
(T) 28. The Veddas are in a primitive state of civilization.
(N) 29. Marriages between second cousins are forbidden.
(F) 30. They do not understand the use of weapons.
(N) 31. The Veddas are very superstitious, and worship the forces of nature.
(F) 32. It is easy for explorers to get photographs of Vedda men, women, and children.
(N) 33. If the children of two sisters were to marry, they would be punished by death.

Section XIV. Exercise on Consistency

One of the skills which is a desirable outcome of learning in any field is the ability to figure out the pattern of relationships among a group of statements. This calls for a relatively high degree of skill in analyzing the statements and combining them into a new pattern on the basis of their relationship to each other and to main issues. The need to use this process

of "sifting" is one which is met constantly in all sorts of situations of daily living. It is one which our young people must develop to a high level if they are to be able to participate actively as citizens in the discussion and solution of the many problems of American and international affairs.

The items in this section are composed of a variety of statements, some of which are in direct conflict with one another. In order to mark the responses correctly, the pupil must have the ability to pick out the conflicting and inconsistent statements. It will help pupils to develop the ability to think more clearly about social relationships to have practice in assigning statements to their proper categories in exercises such as this.

Exercise A

Congressman Rosnec has been campaigning throughout the state in the effort to get votes from all possible groups of people. He has advocated high prices for farm produce to the farmers. He has told various patriotic groups that he favors 100 percent Americanism and is opposed to un-American activities. He has told the laborers that he is in favor of high wages and low prices on the necessities of life. He has promised the businessmen that he will reduce taxes and has championed the increasing of the national defense forces and the continuation of the national public-works program.

Directions: **Which of the following questions would Congressman Rosnec have difficulty in answering directly and to the point? Mark all such items with an X. Mark those which he would not have difficulty in answering directly with a 0. All questions should be marked with one of these two symbols.**

Questions on Exercise A

(0) 1. Would you permit communists to have police protection at their meetings?
(X) 2. Do you favor a high tariff on all imports?
(X) 3. Do you believe that labor unions have the right to call a strike?
(0) 4. Would you favor loyalty tests for public officeholders?
(X) 5. How would you secure low prices on the necessities of life?
(0) 6. Do you believe that the United States should share the atomic bomb with other countries?
(X) 7. Do you favor any new form of taxation?
(0) 8. Should we take further steps to protect the Panama Canal?
(X) 9. Do you favor repeal of the tax on oleomargarine?
(X) 10. Do you believe in continuing support for the economic aid to underdeveloped countries?
(0) 11. Should the federal government have the right to censor radio and television speeches?
(X) 12. Do you favor strong government control over industry and business?

Exercise B

Nelson Jones is chairman of a group of citizens who have taken a special interest in some of the activities of the junior college in the local community. Mr. Jones and his group have criticized the college program sharply because it has not given enough attention to teaching the "fundamentals." They have also gone on record as claiming that some of the procedures of the college are wasteful and extravagant. They have maintained that the students show a lack of discipline, and they object to the fact that some of the teachers seem to them to have liberal views. They have criticized the dean of the college publicly because he has defended both the faculty and the students, and Mr. Jones and his committee members are circulating a petition to the Board of Education requesting the removal of the dean.

Directions: **Same as Exercise A**

Questions on Exercise B

(X) 13. Would you approve of providing funds to modernize the equipment in the science laboratories?
(0) 14. Do you approve of having a course in American history in the junior college?
(X) 15. Do you believe in the right of the teachers to give money to a political campaign?
(X) 16. Do you believe that it is the job of the administration to run the college?
(0) 17. Would you approve of the college's using its funds to buy new uniforms for the band?
(0) 18. Do you believe that a graduate of the junior college should be able to transfer to a four-year college without loss of credit?
(0) 19. Would you approve of the Student Council's right to meet and make decisions without any faculty supervision?
(X) 20. Would you approve of dismissing some classes on the occasion of a brief visit to the community of a famous national hero, so that students could see him?
(0) 21. Do you believe that all students should be required to show that they can write correct English before graduating from the junior college?
(X) 22. Do you believe that the dean of the college has the right to defend the points of view of members of the faculty?
(0) 23. Do you think that the college should start a course in "Preparation for Marriage and Family Living," which a number of the parents and students have requested?
(X) 24. Do you believe that the Student Council has the right to express views which differ from those of the dean of the college?

Section XV. Distinguishing Between Sources and Secondary Accounts

Many young people often think of the social sciences as a body of established and more or less self-selected facts. The neat arrangement of contents in school texts and in reference books may lead them to think of history, for

example, as an unbroken record of events. The teacher should correct such impressions and make clear to pupils that very few of all events have left tangible or reliable records. What is left, however, is voluminous. The records may be written or oral tradition; they may be remains of buildings, monuments, stamps, coins, inscriptions, pots, tools, weapons, or pictures; but they must testify to human thoughts and human activities. These are some of the sources of history. The real goal in using sources in the classroom is not the sources themselves as objects of curiosity to be examined and laid aside but their contents and meanings. The sources are only a means to an end—the understanding of the past.

There is another class of materials described as secondary accounts, to distinguish them from sources, such as textbooks or historical novels. Everyone makes use of secondary accounts since no one could possibly examine all the sources and determine for himself the facts of the past. Secondary accounts are usually based on sources or other second-hand accounts and include the writer's interpretations and organization. Many are invaluable for the study of history, but others, unfortunately, are worthless because they are false and misleading. The critical abilities of the pupil will be given a chance to develop if the teacher will provide opportunity for discussion of *why*, for example, the *Congressional Record* is a source of information about the Congress while *Whose Woods These Are*, although containing much historical information about national forests, is only a secondary account and written primarily for the purpose of reporting and controversy.

In considering written accounts from which is derived accurate knowledge of the facts and events in history, it is necessary to distinguish between sources and secondary accounts. The ability of a student to distinguish between sources and secondary accounts is usually an indication that the student has used source materials and understands what they are.

Directions: **Go through the following list carefully. Write the letter S beside those items which you think should be classed as *sources*. Write the symbol *Sec* beside those items which you think should be classed as *secondary accounts*. In identifying these accounts, consider them in the light of sources or secondary accounts for the events which they describe.**

(S) 1. The Treaty of Versailles.
(Sec) 2. *Gone with the Wind* by Margaret Mitchell, a novel depicting conditions in the South at the time of the Civil War.
(Sec) 3. A newspaper editorial concerning the Munich Pact of 1938.
(Sec) 4. *Napoleon*, a biography written by Emil Ludwig.
(S) 5. The Constitution of the United States.
(S) 6. The newspaper text of one of President Roosevelt's "Fireside Chats," a radio broadcast.
(S) 7. The *Congressional Record*.
(S) 8. The Rosetta Stone used as a key to the early Egyptian language.
(S) 9. Adolph Hitler's autobiography, *Mein Kampf*.
(Sec) 10. *Ivanhoe*, a novel written by Sir Walter Scott.

(Sec) 11. A history textbook.
(S) 12. George Washington's diary.
(S) 13. Baked clay tablets inscribed with cuneiform characters, used about 3500 years ago by writers.
(Sec) 14. *Paul Revere's Ride,* a poem written by Longfellow.
(Sec) 15. *The Dictionary of American Biography.*
(Sec) 16. *The Charge of the Light Brigade,* a poem written by Tennyson.
(S) 17. Photographs of the moon taken by the *Gemini* space crew.
(S) 18. A papyrus roll used by the Egyptians.
(Sec) 19. Radio broadcast of the signing of the Magna Carta.
(S) 20. TV broadcast of the Democratic presidential nominating convention.
(S) 21. A televised broadcast of a baseball game.
(S) 22. A statement that some Germans destroyed works of art in occupied countries during World War II, taken from the Indictment of the International Military Tribunal.
(Sec) 23. A description of how the cave dwellers mixed the paints they used to draw pictures on the walls of their caves.
(S) 24. A list of candidates on an election ballot.
(Sec) 25. A news commentator's account of how the Russian delegates were instructed to vote in the United Nations session.
(S) 26. A motion picture of the daily customs of the Australian Aborigines.
(Sec) 27. An historical motion picture showing the effect on the Indians of the sight of the first Spanish ships in the New World.
(S) 28. A sales slip from a grocery store, listing purchases and prices made on a telephoned grocery order.

Section XVI. Evaluating Sources of Information

In preparing term papers and reports pupils are often indiscriminate in their use of information. They should question whether the information contained in a particular document or record can be used with complete assurance as to its reliability. The reliability of an account depends upon whether the document or record has value as historical evidence. Its value as evidence depends upon the purpose for which it was written; the circumstances under which the record was made; whether it was written from memory or based on documents contemporary with the event it records; whether independent witnesses have agreed on the facts; and whether the writer has exploited the facts to make a good story, to amuse the public, or to instruct.

In initial teaching or testing of this skill it is usually helpful to the student to begin with selecting just the *best* source of information from a group of alternatives. As with the teaching of other study skills, the class discussion emanating from the "correction" of these items is probably the most valuable part of the lesson.

Directions to students: **You have been given an assignment to write a term paper. You have been told that to a large degree it will be valuable according to the extent to which the references you use are accurate and are unbiased, impartial, and unprejudiced.**

Below are a number of possible topics. Under each one are listed three references which might give information about it. If the material were available, which would you consider as most reliable for giving a *true* picture of events as they actually happened? Show your choice of the *best* source by circling either A, B, or C.

Topic I: *The hardships of laborers who built the Transcontinental Railroad.*
- *A. Accounts as recorded in diaries of the workers.
- B. A story by the grandson of one of the construction superintendents.
- C. A T.V. special on the building of the railroad.

Topic II: *The "true" story of the Boston Massacre.*
- A. A T.V. story of the period.
- B. A native of Boston telling the story as handed down by her ancestors.
- *C. A newspaper of Boston, printed during the period, that describes the event.

Topic III: *The "long count" — Dempsey & Tunney*
- *A. Motion pictures taken of the actual fight.
- B. Statements of the event taken from the participants.
- C. Radio accounts of the actual fight.

Topic IV: *The effect of the Vietnam war on the people of that country.*
- *A. An interview with a family in each of ten villages in Vietnam.
- B. A T.V. documentary showing the poverty and hunger of Vietnamese people.
- C. A speech given by Senator Kennedy.

Topic V: *The "Truth" about drug abuse on college campuses.*
- *A. An account of the situation written by students on several campuses.
- B. A newspaper article describing raids on four campuses.
- C. An interview with a college president.

Topic VI: *The physical effects of heroin on the human body.*
- A. A boy whose cousin has taken heroin.
- *B. A report by the Federal Drug Administration on the effects of heroin.
- C. A T.V. interview with an ex-heroin addict.

Topic VII: *What it was like to live in London during the German bombings of World War II.*
- *A. A T.V. documentary showing actual pictures of London during the bombings.
- B. The recollections of an American whose aunt was in London then.
- C. A novel which is set in London during the bombings.

Topic VIII: *The burial of the Etruscan Civilization.*
- *A. Pictures of objects discovered by a team of archeologists.
- B. A story of an Etruscan funeral feast.
- C. An article about Etruscan cities.

Topic IX: *The "true" story of the Salem Witch Trials.*
A. A newspaper article by a reporter who covered one of the trials.
B. The diary of one of the girls who accused others of being witches.
*C. The court records of the trial proceedings.

Topic X: *The fundamentals of Communism.*
A. A person living in the Soviet Union.
*B. The writings of Karl Marx.
C. A book about the Russian Revolution.

After the students have mastered the idea of the *best* potential source, they are ready to attempt the more complex skill of ranking the sources according to their validity.

In Exercise A which follows, the third source of information is to all intents and purposes an eyewitness account. It is contemporary with the event it records. The moving picture about Anthony and Cleopatra, however, was made for commercial purposes. In it the story is the main purpose, and historical considerations are incidental and secondary. The same criticism holds true for the newspaper account. The writer may have examined worthwhile reports, but the chances are they were secondary accounts. The main purpose of the writer was to amuse the public and to tell a good story. Historical considerations were likewise incidental.

Directions to students: **You have been given an assignment to write a term paper. You have been told that to a large degree it will be valuable according to the extent to which the references you use are accurate and are unbiased, impartial, and unprejudiced.**

Below are a number of possible subjects. Under each one are listed three references which might give information about the subject. If the material were available, which would you consider as most reliable for giving a true picture of events as they actually happened? Rate them according to your preference within each group of three. Indicate your choice of the best reference within each group of three by writing the figure 1 in the space before it; your choice of the second best by writing the figure 2 before it; and your choice of the third with the figure 3. *Consider each group of three separately.*

Teachers may wish to score each of these parts containing three items as a single unit, either all correct or all wrong. Or they may mark as incorrect within each group the responses which are not exactly as given in the key, and give credit if the response to a single item within the group is correct.

A. The religious beliefs of the ancient Egyptians
(3) 1. A moving picture dramatizing the love affair of Anthony and Cleopatra.
(2) 2. A newspaper account in the "Sunday Magazine Section" of excavations of an old Egyptian temple.
(1) 3. A translation of an inscription on the wall of an old Egyptian tomb.

B. The events surrounding the fall of the Bastille prison in Paris on July 14, 1789

(2) 4. An account in an English newspaper on July 17, 1789.
(1) 5. An account written in the diary of a man who saw the affair.
(3) 6. A modern play dramatizing the bravery and suffering of the French nobility during the Revolution.

C. The condition of the peasants in Russia under the Tsarist rule

(2) 7. An official note to the French ambassador by the Russian Prime Minister.
(3) 8. A poem about the bravery of the Russian peasant soldier.
(1) 9. A letter from a peasant farmer to his brother in America.

D. The capture of the city of Antioch in Asia Minor by the European "Franks" during the First Crusade

(1) 10. A letter written during the crusade by one of the Frankish leaders who had taken part in the siege and capture of the city.
(2) 11. A history of the crusade written ten years later by one of the Franks who had gone on the crusade.
(3) 12. A history of the crusade written by a monk who did not go on the crusade.

E. Living conditions of the ancient Romans

(2) 13. An epic poem written by a Roman which mentions some family customs.
(1) 14. Excavations of the buried Roman city of Pompeii.
(3) 15. A novel about the fall of Pompeii.

F. Conditions under which laborers worked in English factories and mines in the early nineteenth century

(3) 16. A contemporary newspaper interview of a typical factory owner on factory conditions.
(2) 17. A contemporary news account by a reporter who had visited a factory and a coal mine.
(1) 18. The report of a committee appointed by Parliament to investigate conditions of the working classes.

G. The exact territory ceded to Napoleon from Austria by the Treaty of Luneville in 1801

(3) 19. A letter written by a French soldier who took part in the campaign.
(2) 20. Napoleon's memoirs written by himself several years later.
(1) 21. The text of the Treaty of Luneville.

H. President Lincoln's motives in issuing the Emancipation Proclamation of January 1, 1863

(3) 22. A poem about Lincoln written by Walt Whitman, a contemporary Northern poet.
(2) 23. The news story that appeared in a Confederate newspaper, the *Virginia Gazette,* for January 10, 1863.
(1) 24. The account of the Proclamation that Gideon Welles, Lincoln's Secretary of the Navy, wrote in his diary.

I. The discovery of gold in California

(2) 25. A news item in the *San Francisco Chronicle* in September 1848.
(3) 26. The account of the gold rush as told by Zane Grey, Western novelist.
(1) 27. An account written by the *San Francisco Chronicle* in September 1939, on the ninety-first anniversary of the discovery, including an exact reprint of the original 1848 account.

J. George Washington as a General

(1) 28. The *Diaries of George Washington,* printed with every letter, every comma, copied exactly.
(3) 29. The Sparks edition of the writings of George Washington in which the editor blue-penciled, without indication, offensive words and changed the context of many sentences so that writers of letters to Washington and their families would not be offended.
(2) 30. The latest edition of Washington's letters and papers with indicated omission of all phrases and sentences that would be valueless for the writing of history.

K. The Battle of the Marne, September 1914

(3) 31. An account which contrasted the spirit of the heroic boys of the Allies and the ponderous foolhardiness of the enemy.
(1) 32. An account compiled from material taken from the reports of opposing commanders.
(2) 33. An account appearing in a journal printed in a neutral country.

L. Patrick Henry's "Liberty or Death" speech given on the spur of the moment

(3) 34. A movie dramatizing the speech.
(2) 35. An account written by Patrick Henry twenty-five years later.
(1) 36. An account written by an eyewitness while Henry was speaking.

M. Potsdam Conference promises

(1) 37. State papers by President Harry S. Truman.
(3) 38. Contemporary articles in *Harper's Magazine* by a prominent historian and a political scientist.
(2) 39. An account by one of the members of President Truman's official party.

N. Atomic bomb destruction of Hiroshima

(2) 40. News item in the *New York Times* published the following day.
(1) 41. Army Signal Corps photographs.
(3) 42. Memoirs of the bombing-plane's pilot written on the 10th anniversary after the event.

O. The Dred Scott Decision, 1857

(2) 43. A historical film about the Dred Scott vs. Sandford Case, 1857.
(1) 44. A copy of the Supreme Court justices' opinions concerning the Dred Scott vs. Sandford Case, 1857.
(3) 45. A newspaper report written by a Republican who lived during the Dred Scott vs. Sandford Case, 1857.

P. The Lincoln-Douglas Debates

(2) 46. An encyclopedia account of the Lincoln-Douglas debates.
(3) 47. A movie about the life of Abraham Lincoln.
(1) 48. A copy of the texts of the debates as found in *Documents of American History.*

Q. The Pullman Strike, 1894

(2) 49. A newspaper article written by a reporter who was in Chicago at the time of the strike.
(1) 50. A T.V. documentary which shows actual pictures of the strike and its repercussions.
(3) 51. An account of the strike as told by the nephew of a man who was in Chicago in 1894.

R. The Tweed Ring

(2) 52. An account of the "Tweed Ring" written by a *New York Times* newspaper reporter.
(1) 53. A New York State government report of the "Tweed Ring."
(3) 54. A letter written by "Boss" Tweed to a friend.

S. What Quebec looked like shortly after its settlement

(3) 55. See slides a friend took in Quebec last summer.
(1) 56. Study some paintings of Quebec by an artist who went there in the 1650's.
(2) 57. Listen to a historian lecture about early Quebec and what he thinks it probably looked like.

T. Woodrow Wilson's plan for peace as stated in his Fourteen Points

(2) 58. A textbook account of Wilson's peace plan.
(1) 59. A copy of the original Fourteen Points.
(3) 60. An interview with someone who lived during Wilson's administration.

Follow the same directions in regard to the following excerpts from newspaper accounts. All of them contain some kind of reference to the source for the news item. Some statements have been repeated in another group.

U. The reported disagreement between Marshal Tito of Yugoslavia and the Russians

(3) 61. Judging from the attitude taken today by communist leaders it is believed in Trieste that they have decided to await Marshal Tito's expected statement.
(1) 62. The genesis of the Soviet-Yugoslav quarrel, according to the report of the United Nations' Commission, is the three-sided dispute between Russia, Yugoslavia, and Bulgaria over Greece.
(2) 63. Paris, June 30—Government circles were reluctant today to make anything like an official comment on the breach between Premier Stalin and Marshal Tito. . . .

V. Reports on the flying saucers

(3) 64. British scientists and airmen, after examining the wreckage of one mysterious flying ship, are convinced that these strange aerial objects are not optical illusions.

(1) 65. The general in charge of the planning division of the U.S. Air Force stated that all reports of so-called flying saucers are being thoroughly investigated.

(2) 66. A British cabinet official quoted scientists as saying a flying ship of the type observed could not possibly have been constructed on earth.

W. Reports on attempts to control inflation

(1) 67. Chairman Paul W. McCracken of the President's Council of Economic Advisers has maintained the position that an active policy of "talking down" wage and price hikes has proved worthless and unworkable.

(3) 68. Some delegates to an OECD meeting in Paris told newsmen that a policy of permitting unemployment to run its course will not be accepted today by labor unions or by the public in general.

(2) 69. The U. S. Chamber of Commerce, on November 27, said the economy now is suffering from a "crisis of cost," with gains in output per worker lagging far behind the rising cost of production.

In the remaining groups are excerpts from news accounts, spoken and printed. They are often used to indicate the source of the news. Some of them are more reliable than others. Rate them according to your preference within each group of three. As before, consider each group separately.

X.

(2) 70. The President's secretary told reporters today that the President is worried about the outcome of his interview.

(3) 71. A source close to the President, who declined to be quoted, seemed optimistic about the chances for an early cease-fire.

(1) 72. Mr. Laird, the Secretary of Defense, in a prepared statement, said that measures were under consideration for further coordination of the armed services.

Y.

(3) 73. Paris is understood to have prepared new plans.

(1) 74. Official circles in the French government have been quoted as stating that the President of France will soon have a new plan to propose.

(2) 75. Official circles have stated that a surprising new development in negotiations occurred yesterday.

Z.

(1) 76. It is believed by news reporters, on the basis of evidence considered authoritative, that Washington is preparing to change its strategy in the coming talks.

(2) 77. Newspapers are presenting, without comment, information supposed to come from government circles.

(3) 78. Reporters are convinced, from what they have heard, that the government may change its demands.

AA.

(3) 79. It is rumored that . . .
(1) 80. The Secretary stated in a news release that . . .
(2) 81. A spokesman for the State Department said that . . .

BB.

(3) 82. It is reported reliably that . . .
(1) 83. An informed source close to the President said today that . . .
(2) 84. Officials here were reported to have said that . . .

Section XVII. Recognizing Statements Which Support Generalizations

The social sciences contain records of events which never repeat themselves. Since no two or three events are the same, it follows that their outcomes likewise cannot be identical. There are, however, laws, trends, and developments, and pupils and teachers alike take joy in discovering them. For example:

A. Corrupt electorates usually are served by corrupt officials.
B. Tyranny tends to incite rebellion.

One of the traditional purposes and gratifications in the study of history is to gain historical perspective. That is to say, we study the past in order to enrich our understanding of the present and in part to anticipate the future. The following exercises are made up of general statements to which are added specific, concrete, and factual descriptions. The purpose of the exercise is to look at general statements in reverse. Given a body of data, what general statements can be made? Given a general statement and a body of data, what are the data which support the general statement?

Directions: **After each of the main headings or generalizations lettered A, B, C, D, E, and F, there are numbered statements. Consider each generalization and its statements as a unit. Study each unit carefully and if in your judgment any statement below each generalization could be used as a base to support the generalization, indicate the same by placing the letter Y (for "yes") opposite the number of the statement. If the statement does not uphold the general statement, indicate the same by placing the letter N (for "no") opposite the number of the statement.**

A. Credit helps maintain the balance of the economy.

(Y) 1. Credit gives flexibility to purchasing power—it can be expanded or contracted to meet the needs of business or individuals.
(N) 2. In the 1920's credit was used to clear the market of its goods.
(N) 3. Most of our purchasing power is derived from credit instruments.
(Y) 4. Credit can be a hazard because it increases our economic interdependence, which in turn renders the economic system much more sensitive to every jolt.

("A" Statements continued on page 86)

(Y) 5. A lack of credit speeds up the depression process once it has begun.
(N) 6. Credit is a promise *today* to pay *tomorrow* for goods and services created *yesterday*.
(Y) 7. Our high living standard depends on our ability to produce a high volume of goods at the lowest possible cost per unit. Credit greatly increases our ability to do this.

B. We can learn much from people who come to our country from other lands. Immigrants have made splendid contributions in the fields of American art, painting, music, and industry. They have helped to provide a cultural basis in American life.

(N) 8. Americans are fond of the music of Sibelius, the Finnish composer.
(Y) 9. Many Irish helped build the Union Pacific railroad.
(Y) 10. Albert Einstein, a naturalized citizen, once taught at The Institute for Advanced Studies at Princeton.
(N) 11. Aliens admitted to the United States must be able to read and write.
(N) 12. Many Germans who had migrated to the United States fought on the side of the North during the Civil War.
(Y) 13. Dimitri Mitropoulos, an eminent symphony conductor, became a naturalized citizen.
(N) 14. Few Chinese and Japanese are permitted to take out naturalization papers.

C. Milton said: "Liberty to know, to utter and to argue freely according to our own conscience, is the highest form of liberty."

(Y) 15. The facts of history suggest that radical doctrines are never dangerous so long as they may be freely discussed.
(N) 16. A common saying is, "Let your conscience be your guide."
(Y) 17. The denial of free speech is a poor way to combat dangerous ideas.
(Y) 18. Free expression of opinion is essential to political liberty.

D. Edward Howard Griggs once said: "Under democracy the people will get the worst government they are willing to tolerate; and under democracy the people can get the best government they are willing to work for."

(N) 19. Some of the units of local government of Switzerland are examples of pure democracies.
(N) 20. According to the leaders of the Communist Party in Russia, the people in Russia now have more democracy than a century ago.
(N) 21. The government officials of Russia are hard workers.
(Y) 22. The town meeting in early New England was open to all the qualified voters.
(Y) 23. The grand jury is a device which may be used by the people to investigate charges of graft in public office.

E. "Causes of the Depression."

(N) 24. When the Great Depression, as it was called, first came, Hoover held conferences at the White House with heads of railroads and leaders of industry. He tried to persuade them not to fire employees and to go ahead with their programs of expansion. In short, his first step was to ask for the "voluntary" cooperation of businessmen.

(Y) 25. Especially hard hit were workingmen in industry, because people who suffered losses in the stock market cut down their buying of factory goods. This resulted in many unsold products, and manufacturers were forced to lay off the employees who had produced them. At first thousands and then millions were thrown out of work.

(N) 26. The world seemed upside down for Americans. Once they had been proud because many humble men and women had gone from rags to riches in the United States. Now they had to face the fact that millions had within a short time gone from riches to rags.

(Y) 27. The prolonged slump in agriculture was like a cancer sapping the economic life of the entire country. The shrinkage of farmers' purchasing power cut down the market for manufactured goods and so kept factories from producing to capacity and workers from finding employment. The declining value of farms made it harder for farmers to get credit and imperiled banks that had invested in farm mortgages.

(Y) 28. But early in September, 1929, prices in the stock market, where stock in industries was sold, began to fall, possibly an indirect result of poor money conditions in Britain. The drop continued, until by early November stock prices had fallen to 50 percent of what they had been only a few weeks before.

(N) 29. Hundreds of thousands of jobless people with no other place to lay their heads slept in the parks or—if they were lucky—in abandoned factories, where it was warmer than outdoors. It is estimated that a million people—young and old—were "on the road" in 1931.

F. Man's pollution of the sea may upset the delicate balance of the cycle of ocean life.

(Y) 30. Over-fishing causes the elimination of one species, which in turn leads to the extinction of other species that depend on it for food.

(N) 31. The Soviet Union has 27 schools for the training of technicians, biologists, and marine specialists.

(N) 32. Population experts believe that land-grown food surpluses of today will not be enough to feed the world tomorrow.

(Y) 33. The dumping of nuclear wastes into the ocean may eventually poison the salt water, the plants, and the animals of the sea.

Section XVIII. Determining the Relative Significance of Questions

This section is set up to test a mental ability of a high order. It is difficult to define or describe that skill exactly, but it might be called the ability to grasp the essentials of a situation, or to "size up" its pertinent aspects. It involves more than understanding alone, and might in part be considered as a critical skill.

One of the authors of this Bulletin has had the privilege at various times of working with individuals who had developed this ability to a marked degree. The writer can recall, for example, gathering data which bore upon various questions about which a decision must be made by one of these

persons. The gathering of relevant data for even a single problem might be a laborious process, involving checking and cross-checking in numerous files and references, and several hours of piecing it together and digesting it. When the problem was referred to the other person, he would ask a pertinent question, which the writer answered on the basis of the data he had collected. After about three or four such pointed and incisive questions, the person would have the information necessary to make a decision, and promptly did so.

From this experience the authors have tried to construct items which would test the ability or skill indicated by setting up a series of general statements followed by a list of questions, some of which are significant and some of which are not. There may well be other ways of checking on the possession of such a skill objectively, although the best means is undoubtedly through informal classroom discussion.

Directions: **The following general statements, lettered A, B, C, D, etc., are largely meaningless without qualifications. The questions following each lettered statement include those which, if answered, would make the lettered statement *meaningful* and those which, if answered, would *not* make the general statement especially *meaningful*.**

Do not attempt to *answer* the questions. Merely indicate whether the answer would or would not make the lettered statement meaningful. Consider each group as a separate unit.

Answer symbols: **Y—If the answer to the question would make the lettered statement meaningful.**
N—If the answer to the question is not significant for making the lettered statement especially meaningful.

A. The production of wealth always involves human costs.

(Y) 1. In what occupations are human costs high?
(N) 2. Does labor have the right to strike?
(Y) 3. What organizations have played an outstanding part in reducing occupational hazards?
(Y) 4. What have the states done to eliminate accident hazards in industry?
(N) 5. Why is the public the "victim" of industrial warfare?
(Y) 6. In what occupations are human costs relatively low?
(N) 7. What effect does a restrictive immigration policy have on the reduction of human costs?

B. In November 1956 the United Nations Assembly condemned the invasion of the Suez Canal area by Great Britain and France.

(N) 8. Were there any ships in the canal at the time?
(Y) 9. Did the United Nations Assembly have any power to enforce its decision?
(N) 10. Had the Suez Canal construction been directed by a French engineer?

(Y) 11. Were Britain, France, and Egypt members of the United Nations?
(Y) 12. What was the relative proportion of tonnage passing through the canal annually which was bound for Great Britain?
(N) 13. Were there military airfields within 50 miles of the canal?
(Y) 14. Did the British and French regard Egypt's seizure of the canal in the summer of 1956 as illegal?

C. The present United States immigration policy is based on the quota system.
(N) 15. Why has the United States been called "the melting pot"?
(Y) 16. Does the quota system limit the number of immigrants admitted from any one country?
(N) 17. Does the United States immigration policy affect Americans traveling abroad?
(Y) 18. Why does the immigration policy of the United States favor Northern Europeans?

D. Greater changes have occurred in American agriculture since 1940 than in many decades previously.
(Y) 19. Have farms increased or decreased in size?
(Y) 20. How much hired labor is used?
(Y) 21. Are farmers vulnerable to a price squeeze?
(N) 22. What farmers were the first to mechanize?
(Y) 23. Do farmers generally have low fixed costs?
(N) 24. What was the impact of the cotton gin?
(N) 25. How did the development and use of the reaper affect public policy?
(Y) 26. Do farmers buy or raise feed for cattle?

E. According to statistics published by the Bureau of the Census in 1962 the proportion of old people in 1970 will be greater than that of any other group.
(Y) 27. What ages are included in the term "old people"?
(N) 28. Does this mean that the United States will lose none of the population by war in the intervening years?
(Y) 29. Will the support of the aged assume much more importance in the next few decades?
(Y) 30. What proportion of the present population is aged?
(Y) 31. Is the number of people over sixty years of age gainfully employed decreasing or increasing?
(N) 32. What is the result of the excessive mobility of the population from one section of the country to another?

F. Atomic power may change many of our ways of living.
(Y) 33. Do scientists know how to use the energy within the atom?
(Y) 34. Is atomic energy more expensive to produce than energy from other sources?
(N) 35. Were the comic book authors the first ones to think of ways of using atomic power?
(N) 36. Who was the scientist who first demonstrated that the atom could be broken up?
(Y) 37. How available a supply is there of the raw materials which provide sources of atomic energy?

("F" Statements continued on page 90)

(N) 38. Does the average person understand the theory which may make atomic power available?
(Y) 39. How much did the invention and use of steam power change ways of living?

G. Foreign powers may be less dangerous to this country than our own indifference to our responsibilities as citizens.

(Y) 40. Are there any foreign powers which seem to be a threat to the United States?
(N) 41. How many foreign powers have a democratic form of government?
(N) 42. Is it all right for a Congressman seeking re-election to vote for himself?
(N) 43. Was the United States the first country to adopt suffrage for women?
(Y) 44. Is voting the major responsibility of a citizen?
(Y) 45. Is it all right for a person not yet of voting age to write a Congressman, telling him how he thinks the Congressman should stand on a public question?
(Y) 46. What is the average percent of qualified voters who vote in national elections?

H. In April 1861, members of the South Carolina militia fired on Fort Sumter in Charleston harbor.

(N) 47. How many lives were lost among the defenders of Fort Sumter?
(Y) 48. Who owned Fort Sumter?
(N) 49. Who was the South Carolina militiaman who fired the first shot?
(Y) 50. Did the status of the people of South Carolina change after they fired upon the fort?
(N) 51. Was the commander of the militia a competent military officer?
(Y) 52. Did the commander of the fort have the authority to resist the South Carolina militia?
(N) 53. How many days did it take for the militia to capture the fort?
(Y) 54. What was the feeling of people in the rest of the United States when they heard about the firing on Fort Sumter?

I. Without education the chances for a profitable job and a satisfying life are meager.

(N) 55. Are students tending to become "phony intellectuals"?
(N) 56. Are American students being spoonfed?
(Y) 57. What is intellectual self-reliance?
(Y) 58. What part does ability to learn and adaptability to new situations play in job opportunities?
(Y) 59. What is the difference between training and education?
(N) 60. What do you think about the charge: "One can loaf through college and be with one's friends rather than go to work"?
(Y) 61. Which is more important: *expectation of being taught* or *determination to learn?*
(Y) 62. How much opportunity for employment is there for people of little skill or for the high school drop out?
(N) 63. Would Federal grants to public education violate "states' rights"?

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Appendix

SEQUENCE CHART—CRITICAL THINKING

(KEY: EP, early primary; LP, late primary; EI, early intermediate; LI, late intermediate; J, junior high school; S, senior high school)

SKILL	*Introduce, through planned readiness experiences*	*Develop systematically*	*Reteach, maintain, and extend*
I. Locating information			
A. By using a dictionary, can select the appropriate meanings for significant words and phrases for the context in which they are used	LP	EI-LI	J-S
B. Will acquire a working knowledge of standard reference books in a discipline	LI	J	S
C. Can arrange events, facts, and *Periodical Literature* and other indexes to select appropriate articles for a research project	J	S	S
D. Will express an awareness of various other sources of information in addition to printed materials	EP	LP-LI	J
II. Organizing information			
A. Can identify the central issue in written and oral communication even if it is *not* directly stated	EP	LP-EI	LI-S
B. Can identify facts which relate to the central issue	EI	LI-S	S
C. Can arrange events, facts, and ideas into a sequence	EP	LP-LI	J
III. Evaluating information			
A. Can distinguish between factual and fictional books	LP	EI-LI	J
B. Can distinguish between facts and opinions	EP	LP-LI	J

SKILL	*Introduce, through planned readiness experiences*	*Develop systematically*	*Reteach, maintain, and extend*
C. Can recognize that opinions are not necessarily false but they do require evidence to support their central thesis	LP	EI-J	S
D. Can determine the viewpoint of an author and state probable reasons for his bias	LI	J	S
E. Can recognize that *all* people are biased in one manner or another and that biases are a reflection of our value system	EI	LI-J	S
F. Can recognize that stereotypes are overgeneralizations and are designed to appeal to emotion rather than reason	LP	EI-J	S
G. Will avoid the use of stereotypes both in written and oral discourse	LP	EI-J	S
H. Can recognize stated and unstated assumptions upon which an argument or issue is based and will attempt to determine their validity	J	S	S
I. Can compare information about a topic drawn from several different sources and can recognize agreement or contradiction	LI	J	S
J. Can determine the degree of validity of the various sources of information	LI	J	S
K. Can determine which source of information is more acceptable and state reasons for his choice	EP	LP-J	S
L. Can determine how well the facts support the generalization or belief	LI	J	S
M. Can determine if the facts supporting an issue contradict each other or are inconsistent with generally accepted facts	LI	J	S

SKILL	*Introduce, through planned readiness experiences*	*Develop systematically*	*Reteach, maintain, and extend*
N. Can determine if the facts supporting or refuting an issue are essential or incidental	LI	J	S
O. Can distinguish between facts that are relevant and facts that are *not* relevant to the situation or problem	LP	EI-J	S
P. Can determine whether any conclusions he is pressed to accept are supported by sufficient data and will attempt to discover if significant facts have been intentionally or unintentionally omitted	LI	J	S
Q. Can reach tentative conclusions based on existing evidence	EP	LP-J	S

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